

Psychological Abstracts

EDITED BY

WALTER S. HUNTER, CLARK UNIVERSITY
RAYMOND R. WILLOUGHBY (*Assistant Editor*)
CLARK UNIVERSITY

WITH THE COÖPERATION OF

F. C. BARTLETT, CAMBRIDGE UNIVERSITY
V. M. BEKHTEREV, LENINGRAD
ED. CLAPARÈDE, UNIVERSITY OF GENEVA
G. C. FERRARI, UNIVERSITY OF BOLOGNA

A. MICHOTTE, UNIVERSITY OF LOUVAIN
H. PIÉRON, SORBONNE
M. L. REYMERT, (*formerly*) UNIV. OF OSLO
W. WIRTH, UNIVERSITY OF LEIPZIG

CONTENTS

General	708-743
Sensation and Perception.....	744-773
Feeling and Emotion.....	774-776
Attention, Memory and Thought.....	777-779
Nervous System.....	780-781
Motor Phenomena and Action.....	782-799
Plant and Animal Behavior.....	800-823
Evolution and Heredity.....	824-825
Special Mental Conditions.....	826-851 •
Nervous and Mental Disorders.....	852-880
Social Functions of the Individual.....	881-901
Industrial and Personnel Problems.....	902-930
Childhood and Adolescence.....	931-945
Educational Psychology.....	946-970
Biometry and Statistics.....	971-972
Mental Tests.....	973-982

PUBLISHED MONTHLY

BY THE AMERICAN PSYCHOLOGICAL ASSOCIATION

PRINCE AND LEMON STS., LANCASTER, PA.

Business Offices: PSYCHOLOGICAL REVIEW COMPANY

LANCASTER, PA., AND PRINCETON, N. J.

Application for entry as second-class mail matter at the post-office at Lancaster, Pa., pending.

PUBLICATIONS

of the American Psychological Association

EDITED BY

HOWARD C. WARREN, PRINCETON UNIVERSITY (*Review*)
JOHN B. WATSON, 244 MADISON AVE., NEW YORK (*Review*)
SHEPHERD I. FRANZ, UNIV. OF CALIF., SO. BE. (*Monographs*)
MADISON BENTLEY, UNIVERSITY OF ILLINOIS (*J. of Exp. Psych.*)
S. W. FERNBERGER, UNIVERSITY OF PENNSYLVANIA (*Bulletin*)
WALTER S. HUNTER, CLARK UNIVERSITY (*Index and Abstracts*)
HERBERT S. LANGFELD, PRINCETON UNIVERSITY, Managing Editor

WITH THE CO-OPERATION OF
MANY DISTINGUISHED PSYCHOLOGISTS

PSYCHOLOGICAL REVIEW

containing original contributions only, appears bi-monthly, January, March, May, July, September, and November, the six numbers comprising a volume of about 480 pages.

PSYCHOLOGICAL BULLETIN

containing critical reviews of books and articles, psychological news and notes, university notices, and announcements, appears monthly, the annual volume comprising about 720 pages. Special issues of the BULLETIN consist of general reviews of recent work in some department of psychology.

JOURNAL OF EXPERIMENTAL PSYCHOLOGY

containing original contributions of an experimental character, appears bi-monthly, February, April, June, August, October, and December, the six numbers comprising a volume of about 480 pages.

PSYCHOLOGICAL INDEX

is a compendious bibliography of books, monographs, and articles upon psychological and cognate topics that have appeared during the year. The INDEX is issued annually in May, and may be subscribed for in connection with the periodicals above, or purchased separately.

PSYCHOLOGICAL ABSTRACTS

appears monthly, the twelve numbers making a volume of about 600 pages. The journal is devoted to the publication of non-critical abstracts of the world's literature in psychology and closely related subjects.

PSYCHOLOGICAL MONOGRAPHS

consist of longer researches or treatises or collections of laboratory studies which it is important to publish promptly and as units. The price of single numbers varies according to their size. The MONOGRAPHS appear at irregular intervals and are gathered into volumes of about 500 pages.

ANNUAL SUBSCRIPTION RATES

Review: \$5.00 (Foreign, \$5.25). **Review and Bulletin:** \$9.50 (Foreign, \$10.00).
Journal: \$5.00 (Foreign, \$5.25). **Review and Journal:** \$9.00 (Foreign, \$9.50).
Bulletin: \$5.50 (Foreign \$5.75). **Journal and Bulletin:** \$9.50 (Foreign, \$10.00).
Any one of the above with **Index:** \$1.50 additional.
Review, Bulletin, and Journal: \$14.00 (Foreign \$14.75).
Review, Bulletin, Journal, and Index: \$15.00 (Foreign, \$15.75).
Current Numbers: Review or Journal, \$1.00; Bulletin, 60c; Index, \$2.00.
Psychological Monographs: \$6.00 per volume (Foreign, \$6.30).
Current Issues: prices vary according to size.
Abstracts: \$6.00 (Foreign, \$6.25).

Subscriptions, orders, and business communications should be sent to the
LANCASTER, PA., OR PRINCETON, N. J., OFFICES

PSYCHOLOGICAL REVIEW COMPANY

Foreign Agents: G. E. STECHERT & CO., London (2 Star Yard, Cary St.,
W.C.), Paris (16, rue de Condé)

PSYCHOLOGICAL ABSTRACTS

VOL. I, No. 4

APRIL, 1927

GENERAL

708. Adams, G. P. Ideas in knowing and willing. *Univ. Cal. Publ. Phil.*, 1926, 8, 25-48.—An idea is an event occurring in the life history of an individual body-mind. Ideas embody an intent, a specific point of view, perspective or purpose, its internal meaning. Ideas also make reference to something objective, its external meaning.—R. W. Nafe (Clark).

709. Bentley, M. The major categories of psychology. *Psychol. Rev.*, 1926, 33, 71-105.—(Presidential address before the American Psychological Association at Ithaca, December 29, 1925.) After an introduction Bentley considers three major categories of psychology. These are: (1) *objectivity*, illustrated by the behaviorist's stimulus-copula-response formula, (2) *experience*, illustrated by the phenomenal view underlying the doctrine of the *Gestalt*, (3) active and dynamic principles of a conceptual kind, as found in psychoanalysis. The major categories are considered in relation to six main problems of psychology.—P. T. Young (Illinois).

710. Calkins, M. W. Critical comments on the "*Gestalt-Theorie*." *Psychol. Rev.*, 1926, 33, 135-158.—"Only the briefest of concluding paragraphs is necessary to draw together the threads of this discussion. The first division of this paper sets forth, in highly condensed form, the essential content of *Gestalt*-psychology. Part II presents the considerations on which it is based—summarizing, in particular, the methods and results of experimental studies in perception and of observations of animal behavior. The concluding section of the paper, starting out from an expression of its author's agreement with the basal doctrines of *Gestalt-Theorie*, offers certain criticisms of its procedure and assumptions."—P. T. Young (Illinois).

711. Carmichael, L. Sir Charles Bell: A contribution to the history of physiological psychology. *Psychol. Rev.*, 1926, 33, 188-217.—After a brief biographical sketch the writer considers the contributions and pioneer work of Sir Charles Bell in various fields of physiological psychology. The differentiation between sensory and motor nerves is rightly attributed to Bell despite the pretensions of Walker. The work of Magendie was clearly subsequent to that of Bell. The essential facts of the doctrine of specific energy of sensory nerves were stated by Bell prior to Johannes Müller, but Bell's work has been generally overlooked. Bell's work upon the muscle sense established it as a sixth modality and anticipated more recent studies of the proprioceptive system. He made contributions to the study of the organs of sense, and did work upon the reciprocal innervation of antagonistic muscles. In the scientific study of the expressions of the emotions Bell's treatise is a classic which, according to Darwin, laid the foundations of the subject as a branch of science.—P. T. Young (Illinois).

712. Collins, M., & Drever, J. A first laboratory guide in psychology. New York: Dutton, 1927. Pp. viii + 108. \$1.60.—This is the laboratory manual which was promised by the authors in their "*Experimental Psychology*" of last year and is supplementary to that volume. Like the text, it is strictly elementary, though suggestive. There is outlined a set of fifty experiments, twenty of which are supplementary to others. In general the selection of experiments corresponds to the subjects discussed in the text. In each experiment the problem

is stated, the apparatus and materials are described, the method of procedure is outlined, and the directions are given for treatment of results.—*F. A. Geldard* (Clark).

713. **Herrick, C. J.** *The natural history of purpose.* *Psychol. Rev.*, 1925, 32, 417-430.—Human thinking has two characteristic features: first, it is symbolic; and second, it makes possible the prediction of future events and the consequent adjustment of our behavior with reference to future contingencies. The basis for present adjustments to future events can be found in the natural history of living organisms. It is not necessary to appeal to mystical forces. That I have foresight and conscious purpose is a datum of experience not to be set aside by any analysis of the mechanisms of behavior.—*P. T. Young* (Illinois).

714. **Heymans, G.** *La psychologie, science autonome.* (Psychology, an autonomous science.) *Arch. de Psychol.*, 1926, 20, No. 78, 156-162.—Inaugural address at the International Congress of Psychology at Groningen. Psychology is passing through a crisis; Heymans explains this crisis as due to the discouragement which lays hold on certain psychologists who realize that psychology has not attained the same grade of precision as the natural sciences. He judges that this discouragement is unwarranted. The natural sciences got a much earlier start than psychology and they can experiment under very simple conditions. Nothing prevents the admission that in psychology, also, determinism might be rigorously applied and mental laws reached.—*Ed. Claparède* (Geneva).

715. **Highsmith, J. A.** *Proceedings of the 21st annual meeting of the Southern Society for Philosophy and Psychology, 1926.* *Psychol. Bull.*, 1926, 23, 609-630.—Report of the secretary, including abstracts of papers read.—*J. F. Dashiell* (North Carolina).

716. **Hollingworth, H. L.** *Mental growth and decline.* New York: Appleton, 1927. Pp. xii + 396. \$3.00.—The book is a textbook of genetic psychology. The author states his aim as follows: "The human mind during the life of the individual undergoes changes similar to those affecting the body. Both the body and mind are subject in the beginning to a period of growth and development, followed by a period of maturity and fullness of powers, which in turn gives way to the gradual decadence expected in old age. In this book appears a survey of the origin, course and destiny of human life in terms of established psychological knowledge. The whole life of man is unfolded and his development traced from the time before birth when the mind begins to evolve, up through the years of adolescence and the mature period of achievement, and on into senility." There are seventeen chapters: introduction; the nature of development; general features of human development; stages of human development; heredity and the germ plasm; the diversities of human nature; prenatal development; the human being at birth; babyhood—the first three years of childhood; the questioning age—the imbecile hurdle; the "big Injun" age—the moron hurdle; the "awkward" age—adolescence; maturity—vocational and domestic career; senility—the period of decline; abnormal mental development; the post mortem age—the survival of institutions; general developmental laws.—*J. R. Liggett* (Clark).

717. **Issajew, W.** *Studien an organischen Regulationen. (Experimentelle Untersuchungen an Hydren.)* (Studies in organic relationships. Experimental investigations on *Hydra*.) *Arch. f. Entwickmech.*, 1926, 108, 1-67.—As a result of experiments on *Hydra oligactis* and *Hydra vulgaris*, in which pieces of several different individuals, or pairs of entire individuals split lengthwise on one side, were caused to fuse and produce one or more normal hydras, the author is led to some remarks on the nature of individuality and on vitalism. He suggests the term "dividuality" as applicable to plants and to animals like hydroids, some worms, etc., in which there is no separation of soma and germ-plasm and where separation of sex cells is late and sex dimorphism not developed. While

not accepting extreme vitalism, he regards a moderate vitalism as useful in reminding us that the problems of individuality are not solved.—*M. F. Washburn* (Vassar).

718. *J., L. W.* **International Congress of Psychology.** *Nature*, 1926, 118, 606-607.—A brief account of the eighth International Congress of Psychology held at Gröningen on September 6-11, 1926. Specific mention is made of the contributions of Myers, Spearman, Godefroy, and Zwaardemaker.—*J. E. DeCamp* (Pennsylvania State).

719. *Kuenzel, M. W.* **Research from incidental data.** *Tr. School Bull.*, 1927, 23, 289-299.—A card (8½ x 11 inches) on which to summarize the findings about a child is described. There are many advantages in having the card, but the one emphasized is its use to those who wish to make research studies based on such incidental data. "Many opportunities for practical as well as theoretical research are offered by such a summary of routinely obtained data."—*E. M. Achilles* (Columbia).

720. *Lenzen, V. F.* **Scientific ideas and experience.** *Univ. Cal. Publ. Phil.*, 1926, 8, 176-189.—There is a dualism between reason and experience. Experience shows a world rich in quality, reason has for its object an exact world lacking the qualities of experience. There is a gap between exact knowledge and indeterminate perception. Also an abstractive class of durations is an object of thought and not a datum of sense-awareness.—*R. W. Nafe* (Clark).

721. *Lewis, C. I.* **The pragmatic element in knowledge.** *Univ. Cal. Publ. Phil.*, 1926, 6, 205-227.—(Howison Lecture.) The pragmatic element in knowledge lies in the choice of conceptual systems used in viewing truths of experience. Such choice will be on pragmatic grounds, and new facts may cause a shifting in such grounds.—*R. W. Nafe* (Clark).

722. *Loewenberg, J.* **The metaphysical status of things and ideas.** *Univ. Cal. Publ. Phil.*, 1926, 8, 110-144.—A list of the consequences which follow from a theory of knowledge that makes emphatic the "existence" of the datum of immediate experience as primary rather than its "essence." The shift in emphasis from essence to existence renders at once gratuitous the identification in either direction of things and ideas. Immediate experience itself proclaims the truth of realism.—*R. W. Nafe* (Clark).

723. *Luther, V.* **Circling the world with psychological supplies.** *Indus. Psychol.*, 1927, 2, 12-16.—A sketch of the development of the firm of C. H. Stoelting and Co., Chicago, makers of psychological apparatus and supplies.—*A. T. Poffenberger* (Columbia).

724. *Markey, J. F.* **The place of language habits in a behavioristic explanation of consciousness.** *Psychol. Rev.*, 1925, 32, 384-401.—"The view set forth is that mind is behavior and that consciousness may be explained behavioristically in terms of language habits and coördination." Various aspects of the language problem are discussed with references to current behavioristic papers.—*P. T. Young* (Illinois).

725. *McDougall, W.* **A great advance of the Freudian psychology.** *J. Abn. & Soc. Psychol.*, 1925, 20, 43-47.—The writer pointed out that Professor Freud is really less rigidly Freudian than many of his ardent disciples, that he now recognizes the primacy of the hormic principle, recognizing that instinctive urges work within us in relative independence of pleasure and pain. In "Beyond the Pleasure Principle" Freud comes near to recognizing that pleasure and pain are conditioned by the instinctive urgings, by their success and failure, and by their conflicts. In an obscure way he has long recognized the inadequacy of the pleasure principle embodying this idea in a term called the "reality" principle. Freud goes on further to recognize that the pleasure principle is not fundamental, but that there is something deeper than or prior to the pleasure principle,

and recognizing this, creates a new and primary instinct which he calls "the repetition-compulsion," which is similar to the writer's idea that pleasure and pain do but modify in the way of promoting or checking the fundamental urges of our instinctive nature. But from this Freud departs on a speculative inquiry into the nature and origin of the repetition-compulsion which leads him to the astonishing conclusion that all instincts, except the sexual, tend or strive toward death. The writer himself feels there is a much simpler explanation—that repetition is of the essential nature of instinctive activity. The greatest need of present-day psychology, according to the author, is the incorporation with the hormic psychology of all the valuable insight into human nature which the psychoanalytic movement and the genius of Freud have given us, and Freud's fundamental change of doctrine revealed in his "Beyond the Pleasure Principle" is a most welcome step in this direction.—*E. F. Symmes* (Boston Psychopathic Hospital).

726. **Melrose, J. A.** *Method of organic problems.* *Psychol. Rev.*, 1925, 32, 74-82.—Contemporary psychology is working by the piece-meal methods of inorganic science, with the result that the central organic problem of adjustment remains unsolved. The organismal method, considering the organism as an integrated unit, offers a way out of difficulty. This method stresses the functional, rather than the analytical or behavioristic, viewpoint. The organismal approach is serial, which means that if one were analysing the types of learning, one would begin with the simplest type and work toward the more complex types, always endeavoring to locate what is new in the more complex forms. The aim is always a knowledge of the structures underlying psychological functions.—*P. T. Young* (Illinois).

727. **Muirhead, J. H.** *The real and the ideal.* *Univ. Cal. Publ. Phil.*, 1926, 8, 3-22.—The three meanings of the word "idea" correspond to three great types of modern philosophy. In each the relation of the ideal to the real has been the central problem of successive phases of philosophical thought. Despite differences in modern philosophy there are signs of an underlying agreement which suggests a new synthesis.—*R. W. Nafe* (Clark).

728. **Murphy, A. E.** *Ideas and nature.* *Univ. Cal. Publ. Phil.*, 1926, 8, 193-213.—Neither idealists nor naturalists have a claim on public confidence, but rather a third party, the first plank in whose platform is the reality of relations. Ideas belong to reality, and in knowledge and action man is in touch with his world. The knowledge relation is a fact of interaction within the complex of events. Its relativity is the proof of our relatedness. To condemn ideas is to condemn the part because it is not the whole.—*R. W. Nafe* (Clark).

729. **Nixon, H. K.** *Popular answers to some psychological questions.* *Amer. J. Psychol.*, 1925, 36, 418-423.—Several college classes were asked to indicate which of a list of thirty statements popular in current pseudo-psychology (but not held by scientists) they believed to be true. On the average, the students believed in about one-third of the misconceptions. Positive replies were most frequent for ideas where the misconception was due to ignorance of the specific meaning of technical terms, and least frequent for those notions which were merely popular superstitions. Between these extremes lay a middle ground of popular psychological fallacies which are often exploited by various agencies, such as the newspapers, but which have been definitely discredited by men of science.—*G. J. Rich* (Institute for Juvenile Research).

730. **Paton, H. J.** *The idea of the self.* *Univ. Cal. Publ. Phil.*, 1926, 8, 73-105.—The problem is how we know ourselves. This is solved by reflective knowledge, which solution is justified in so far as without it our world is unintelligible. Reflection is called inference to distinguish it from immediate observation. This reflection is immediate.—*R. W. Nafe* (Clark).

731. **Pepper, S. C. Transcendence.** *Univ. Cal. Publ. Phil.*, 1926, 8, 51-69.—The problem of transcendence is, "How can we have an idea of anything?" Descriptive, objective and complex transcendent reference can be accounted for by an inevitable development out of the nature of things. The path of impulse along patterns is itself reference, and becomes transcendent when patterns interact and block each other. Descriptive or objective reference is the joint reference arising from the integration of a number of blocked patterns.—*R. W. Nafe* (Clark).

732. **Perry, R. B. A modernist view of national ideals.** *Univ. Cal. Publ. Phil.*, 1926, 6, 185-204.—(Howison Lecture.) Present-day critics of our national ideals are in a blind struggle between two false doctrines, viz., reaction and revolution—the mere past, the mere future. An ideal must be something vital, something felt, and have the double rôle of something to live by and something to live for. Ideals are neither facts nor certainties, but resolves which are seated in the will. They should be supplemented where lacking and recreated in the hearts of each succeeding generation. They are both personal and social governing forces.—*R. W. Nafe* (Clark).

733. **Prall, D. W. Abstract ideas.** *Univ. Cal. Publ. Phil.*, 1926, 8, 147-171.—Degree of generality, or, conversely, of determinateness, allows a useful grouping of ideas as more or less abstract; and an attempt to make them concrete is abortive, since it is only as abstracted from the matrix of experience and then as generalized that ideas can serve as instruments in performing the function of thinking.—*R. W. Nafe* (Clark).

734. **Singer, E. A., Jr. Concerning introspection: a reply.** *J. Phil.*, 1925, 22, 711-716.—Professor Blake recently subjects the writer's article "Mind as Behavior" to criticism. The writer does not wish to involve himself in a denial of all value to introspection. But introspective testimony may not be allowed the last word in its topic. This must not be taken, however, as denial of value to introspection, and cannot, if one takes into consideration the context in which the passage occurs for which the writer is criticised. Nevertheless, introspective evidence cannot be checked up by introspective testimony.—*T. R. Garth* (Denver).

735. **Smith, W. B. Discussion: motions? or emotions?** *Psychol. Rev.*, 1926, 33, 159-165.—Comments upon the book of A. P. Weiss: *A Theoretical Basis of Human Behavior*.—*P. T. Young* (Illinois).

736. **Starbuck, E. D. G. Stanley Hall as a psychologist.** *Psychol. Rev.*, 1925, 32, 103-120.—This is the second of two papers read at the annual meeting of the American Psychological Association, 1924, Washington, D. C., as a tribute to the late G. Stanley Hall. It is based upon a questionnaire sent to the members of the American Psychological Association regarding the importance of Hall's contributions to special fields of study.—*P. T. Young* (Illinois).

737. **Titchener, E. B. Experimental psychology: a retrospect.** *Amer. J. Psychol.*, 1925, 36, 313-323.—Experimental psychology took shape against a background of physics and of a physiology of physics. The early problems of psychological experimentation, as well as Wundt's Physiological Psychology, show this influence. The first years of the experimental science were involved in a conflict with three opposing forces: the influence of the Herbartians, against whom Wundt was continually directing his attack; empirical psychology, into which the experimentalists were continually tending to slip; and the hostility of philosophy to all attempts to treat mind scientifically. In the main, these types of opposition have been overcome, and today experimental psychology is free of physiology. The outlook for its future is promising.—*G. J. Rich* (Institute for Juvenile Research).

738. **Vedrani, A. Studi Kraepeliniani. In memoriam.** (Studies of Kraepelin. In memoriam.) *Riv. di psicol.*, 1926, **22**, 173-182.—A discussion of two necrologies written by Kraepelin on Möbius and Wundt, showing not only the appreciation he had of these two men but revealing the sympathetic nature of Kraepelin himself.—*T. M. Abel* (Cornell).

739. **Warren, H. C. Mechanism and teleology in psychology.** *Psychol. Rev.*, 1925, **32**, 266-284.—The question of mechanism *vs.* teleology in psychology should be approached disinterestedly and the conditions for an experimental test should, if possible, be determined. The teleologist believes in the efficacy of consciousness as, for example, in the case of intuition. The burden of proof for this doctrine lies with the teleologist. Professor Warren discusses the mind-body theories and various other systematic problems in relation to the central theme: mechanism *vs.* teleology.—*P. T. Young* (Illinois).

740. **Weiss, A. P. One set of postulates for a behavioristic psychology.** *Psychol. Rev.*, 1925, **32**, 83-87.—At present the lack of agreement in the fundamental postulates of psychology demands a reformulation. Professor Weiss has presented a series of ten postulates which are basic to his system of physical monism.—*P. T. Young* (Illinois).

741. **Weiss, A. P. Purposive striving as a fundamental category of psychology.** *Psychol. Rev.*, 1925, **32**, 171-177.—A discussion of Professor McDougall's address at Toronto, 1924, from the standpoint of Professor Weiss's postulates and system of behaviorism.—*P. T. Young* (Illinois).

742. **Wheeler, R. H. Persistent problems in systematic psychology. III. Stimulus-error and complete introspection.** *Psychol. Rev.*, 1925, **32**, 443-456.—The stimulus-error is discussed in relation to the process-meaning distinction. "We conclude, therefore, that there is no process-attitude as opposed to meaning-attitude, except as we make process mean mental, and object mean something physical." The paper also discusses and defends the method of complete introspection.—*P. T. Young* (Illinois).

743. **Wilson, J. C. Statement and inference.** (Ed. by A. S. L. Farquharson.) Oxford: Clarendon Press, 1926. 2 v. Pp. clxiv + 409; vi + 410-901. \$10.00.—A former pupil, himself a philosopher, edits the literary remains of one of the best-loved of the Oxford logicians (1850-1915). Wilson was a brilliant mind, but one too faithful to phenomena to be orderly in the usual sense; as a result, though he worked and reworked these materials for many years, the editor found them often incoherent and unsatisfactory even to the author. He has done what he could with them, believing that their appearance in some form should not be longer delayed. There is a large amount of intimate personal material: memoirs, testimonies, letters, tentative investigations, etc. The logical material itself is divided into five parts: Introductory, Statement and its Relation to Thinking and Apprehension, Inference, Special Logic, and Tentative Investigations and Philosophical Correspondence. His general approach is from the analysis of the content of common language; his criticisms are extremely searching, but occasionally not supported with evidence of the sort demanded by empirical scientists; the emphasis is also slight upon the psychological (as opposed to formal) components of thinking, and especially upon those not fully conscious. Grammatical considerations and their logical implications are given much space. A considerable disagreement with traditional points of view centers around judgment, and another around the usual definitions of subject and predicate; Wilson spent much time also in the elaboration of an original theory of the universal. A particularly important point for psychologists is his contention that the "probability" fraction is in fact a "modulus of evidence," and in consequence the attempt to refer it to reality is fallacious; of general interest is the denial of all validity whatever to conceptions of "non-Euclidian" space. Empiricism, he alleges, fails to ex-

plain the laws of thought. A long chapter is given to symbolic logic, a topic which, though he disagrees ultimately with its presuppositions, long intrigued his active mind. Portions of Part V, perhaps as interesting from a human standpoint as any other, are his correspondence with Bosanquet, for whom a technical disagreement did not prevent a great respect, and a final chapter on "Rational Grounds of Belief in God."—*R. R. Willoughby* (Clark).

[See also abstracts 777, 819, 835, 862.]

SENSATION AND PERCEPTION

744. **Achmatov, A. S.** Eine experimentelle Untersuchung der Dunkeladaptationsgleichungen. (An experimental investigation of the dark adaptation equations.) *Pflüg. Arch. f. d. ges. Physiol.*, 1926, 215, 10-18.—Retinal sensitivity during a 24 hour period of dark adaptation increases, after the rapid rise of the first 30 to 60 minutes, intermittently with varying periods of relatively small gain. Average curves, after the initial rise, are rectilinear and suggest no reason to suppose the maximum sensitivity is reached in 24 hours. Sensitivity, as measured by the reciprocal of the threshold, at the end of 24 hours is about 5 times that obtaining after 1 hour. Equations are discussed which attempt to express the relation between sensitivity and length of the adaptation period.—*L. T. Spencer* (Yale).

745. [Anon.] The gustatory sensory reflex. *Nature*, 1926, 118, 246-247.—Review of a paper by F. Allen. The fusion point of interrupted electrical stimuli applied to the taste buds of the tongue was determined. The equation representing the fusion curves for taste is closely related to those previously found for vision, hearing, and touch.—*J. E. DeCamp* (Pennsylvania State).

746. **Boryscheva, E.** Über die Synthese der Geschmacksempfindungen. (On the synthesis of the taste sensations.) *Pflüg. Arch. f. d. ges. Physiol.*, 1926, 215, 103-105.—The tastes of various fruits, beverages, etc., were simulated by quantitatively measured mixtures of four solutions yielding respectively the tastes of salt, sour, sweet and bitter.—*L. T. Spencer* (Yale).

747. **Fortin, E., & Fortin, P.** Investigations histologiques sur certains éléments de la rétine. (Histological investigations on certain retinal elements.) *C. r. Acad. sci.*, 1926, 183, 452-454.—Following up previous observations on the retina by means of the entoptoscope, histological investigations were made of the eyes of ape and man. The fovea, rods and cones, fibres of Henle, and other retinal structures were studied. The writers believe the sensitivity of the retina is to be ascribed not to the rod and cone layer, but to a uniform layer of tiny structures.—*J. E. DeCamp* (Pennsylvania State).

748. **Friedenwald, J. S.** The distribution of light intensity in astigmatic images, with special reference to the sensitivity of test charts used in refraction. *J. Opt. Soc. Amer.*, 1926, 13, 621-629.—This paper undertakes to find the distribution of light intensity along an image line in an astigmatic system corresponding to a long or short, or infinitely short, uniformly luminous segment of an imageable line in the object plane. By the aid of the formulae derived in the study, the author claims to be able to reconstruct graphically the image for astigmatic eyes of different types of astigmatic dial charts used in the subjective testing as astigmatism.—*G. Rand* (Bryn Mawr).

749. **Guild, S. R.** The width of the basilar membrane. *Science*, 1927, 65, 67-69.—Accurate measurements were made of the widths of the basilar membrane in 35 cochleas from guinea pigs. Proceeding apexward from a narrow basal end, there is an irregular increase in width, with zones of constant or slowly decreasing width, until the widest zone is reached at the beginning of the apical coil.

Beyond this there is always a rapid decrease in width as the apex of the cochlea is approached.—*G. J. Rich* (Institute for Juvenile Research).

750. **Hahn, H.** *Die Reize und die Reizbedingungen des Temperatursinnes. I. Der für den Temperatursinn adäquate Reiz.* (The stimuli and the stimulus conditions of the temperature sense. I. The adequate stimulus for the temperature sense.) *Pflüg. Arch. f. d. ges. Physiol.*, 1926, **215**, 133–169.—In a variety of experiments it is reported that the sensations of warmth and of cold do not depend upon the amount of change in temperature of the skin but rather directly upon the absolute amount of the stimulus temperature. Given the fact of change, the occurrence of the sensation is independent of the amount of change. This is clearly shown for sensations of warmth when the skin is adapted to temperatures below 33.5° C., or for cold when the adaptation temperature is below 30° C. The theory of Weber as to the adequate stimulus for the temperature sense is discarded in favor of that of Hering. Adaptation is referred to a physiological change in nerve rather than to a physical condition. The constants of the stimulability of the temperature sense are established and the phenomena of adaptation and paradoxical cold are considered in connection with them. [With a supplement by H. Han and K. Boshamer.]—*L. T. Spencer* (Yale).

751. **Holladay, L. L.** *Glare of street-lamps and its influence upon vision.* *Trans. Illum. Eng. Soc.*, 1926, **21**, 960–981.—This paper discusses what should be the arrangement of street-lighting units and how their light should be distributed in order to secure a maximum of useful illumination with a minimum of glare; or in other words, how objects on a street may be rendered most visible with the least amount of light. The following topics are discussed: increase of adaptive brightness due to light-sources in the field of view; effect of a number of light-sources in a line parallel to the line of vision; influence of slope of line of vision upon the effect of glare; variation of effect of glare with position of observer; variation of the effects of glare with the direction of vision; visibility expressed in terms of a safety-factor of visual contrasts; effect of mounting-height upon the safety-factor of visual contrasts; effect of distribution of luminous flux from light-sources; center-suspended versus side-supported light-sources; effect of specular-reflection from a street surface; and asymmetrical candle-power distribution of light-sources. In his conclusions the author states: "A light source in the field of view and at an angle to the line of vision apparently increases the brightness to which the fovea or central region of the retina of the eye is adapted. The increment of increase of adaptive brightness due to a given light-source varies directly as the amount of its illumination at the eye and inversely as the square of the angle the light-source makes with the line of vision. When the line of vision is horizontal and parallel with the axis of the street, the increase of adaptive brightness is practically independent of the distance the lamp is away, or is directly proportional to its candle power in the direction of the eye. By dropping the line of vision from a horizontal, the influence of glare upon adaptation rapidly decreases."—*G. Rand* (Bryn Mawr).

752. **Hulburt, E. O.** *The transparency of ocean water and the visibility curve of the eye.* *J. Opt. Soc. Amer.*, 1926, **13**, 553–556.—Measurements of the absorption of ocean water for monochromatic light throughout the visible spectrum are recorded and show that the sea water is about as transparent as pure water. When daylight is passed through 40 meters of water the resulting spectral intensity curve is very similar to the visibility curve of the eye both as regards shape and position of the maximum. It is more similar to the curve of the dark-adapted than the light-adapted eye. Early life on the earth developed in a watery environment with a vaporous atmosphere. This permits the suggestion that the visibility curve of the eye owes its general characteristics to the spectral intensity curve of Palaeozoic daylight.—*G. Rand* (Bryn Mawr).

753. Luckiesh, M., & Moeller, I. W. Naming the common signal colors. *J. Opt. Soc. Amer.*, 1926, 13, 465-469.—38 observers were used to provide data on the confusion known to be present in the naming of colors, even of the relatively pure colors used for signals. Twelve glasses transmitting dominantly in the red, yellow, green, blue-green and blue were viewed singly and in a group. The visual angle subtended by each color was of the order of magnitude of 45' to 90' of arc; the separation when grouped, ten times this amount. Results showed that color names are not standard for a group of observers; that more confusion exists when the color is viewed singly than when viewed in a group of other colors; that the most confusion in naming is found for the colors in the vicinity of blue-green; and that confusion also exists at the transitional point between red and yellow.—G. Rand (Bryn Mawr).

754. Peterson, J. Local signs as orientation tendencies. *Psychol. Rev.*, 1926, 33, 218-236.—A discussion of the facts and theories of local signature which lays stress upon the bodily orientation to stimuli.—P. T. Young (Illinois).

755. Polikarpoff, M. Über die experimentelle Prüfung des Lasareff-Gesetz der Verschmelzung der Flimmerungen beim peripherischen und zentralen Sehen in monochromatischen Lichte. (On the experimental verification of the Lasareff law of the elimination of flicker for peripheral and central vision in monochromatic light.) *Pflüg. Arch. f. d. ges. Physiol.*, 1926, 215, 95-102.—The various special and general forms of the Lasareff equations are experimentally verified under the conditions noted.—L. T. Spencer (Yale).

756. Ponzo, M. Gli spostamenti dello sguardo come sintomo psicodiagnostico. (Eye movements as a psychodiagnostic symptom.) *Arch. ital. psicol.*, 1926, 5, 46-56.—A simple test shows that a subject whose eyes are closed by the experimenter after the fixation of an object is likely to fixate a different point after reopening his eyes. This change may be due to a forgetting of the *Aufgabe* or to "unstable" attention. In order to throw light on "displacements" of attention by means of eye movements, Ponzo used the campimetric method. Ten rapid determinations of the size of the visual field (horizontal meridian) were made. A square of 1 cm.² on a white ground was used. Results on 15 subjects (normal and abnormal, children and adults) are reported and the relation between "direction" of attention and size of visual field is discussed.—H. Klüver (Columbia).

757. Pratt, M. B. The visual estimation of angles. *J. Exper. Psychol.*, 1926, 9, 132-140.—"In the present experiment both acute and obtuse angles (45° and 135° were taken to be typical) were as apt to be overestimated as they were to be underestimated. There was a tendency towards overestimation in both cases, but this tendency was found to be mathematically insignificant. The tendency towards overestimation was not uniform. Approximately half the observers overestimated the angle of 45°, and half underestimated it. The same was true of the angle of 135°. As a rule those observers who overestimated acute angles also overestimated obtuse angles, and those who underestimated acute angles also underestimated obtuse angles. There was only one slight exception to this rule. Judgments of acute angles were more uniformly accurate and consistent than those of obtuse angles. According to the observer's reports the size of an angle was usually judged not by estimating directly the amount of space between the two arms but rather by judging the position of these arms with respect to certain imaginary lines. By means of this judgment the size of the angle was inferred."—C. C. Pratt (Harvard).

758. Rich, G. J. Black and grey in visual theory. *Amer. J. Psychol.*, 1926, 37, 123-128.—The facts of vision seem to require some constant process for their complete explanation. This has been assumed by different writers to be either black or grey. There is a considerable difference in the explanatory values of the

two hypotheses. A constant grey makes possible a simple explanation of contrast, adaptation and after-image in the colorless series by subsuming them under the principles used to explain similar phenomena in the case of colors. This cannot be done on the basis of a constant black. Moreover, direct experimental observation of the colorless series shows that grey is not a mixture of black and white, but that black and white meet at grey (as do any pair of complementary colors) instead of overlapping.—*G. J. Rich* (Institute for Juvenile Research).

759. **Robbins, W. M.** An explanation of diplopia. *Amer. J. Physiol. Opt.*, 1925, 6, 514-520.—Considers only the form of diplopia which results from the doubling of images in binocular vision. Criticism of Byrd's contentions. The author believes that the false image in diplopia is due to the mental inability to reconcile the different impressions of direction of the object which the two eyes receive, so that the direction impression of the fixed eye is accepted and the direction impression of the deviating eye is regarded as untrue.—*S. W. Fernberger* (Pennsylvania).

760. **Rudisill, E. S.** Constancy of attitude in weight perception. *Amer. J. Psychol.*, 1925, 36, 562-587.—Judgments of lifted weights were made under three instructions, namely, judgment on the basis of pressure on the finger-tips, judgment on the basis of kinaesthetic sensations in the wrist, and judgment on the basis of the stimulus itself. In all cases there were frequent introspective checks. The effect of progressive practice is evident under each of these instructions, especially under the stimulus instruction. There is a high correlation between purity of attitude, as revealed by introspective reports, and the indices of precision. The stimulus attitude yields the highest precision of judgment. Judgments made under several instructions are of questionable value without an introspective check on every judgment. The three instructions used in this experiment are susceptible of fulfillment by a trained observer, but there can be no certainty of the constancy of the attitude over more than one judgment at a time.—*G. J. Rich* (Institute for Juvenile Research).

761. **Samojloff, A. J.** Sur la tension dans les veines choroidiennes. (The blood-pressure in the choroid veins.) *Ann. d'ocul.*, 1926, 163, 689-694.—A favorable case permitted the measurement, in a human eye, of the blood-pressure in an (anomalous) optico-ciliary vein, and this value was found to be the same as that for the anterior ciliary veins.—*E. G. Wever* (California).

762. **Schoen, M.** Tests of musical feeling and musical understanding. *J. Comp. Psychol.*, 1925, 5, 31-52.—Results of tests on relative pitch, tonal sequence, and rhythm are given; standardization of the tests was effected on grammar-school, high-school, and normal-school pupils in Pittsburgh. In most cases similar results accrued no matter what school group was used.—*H. R. Crosland* (Oregon).

763. **Sheard, C.** A subjective method of skiascopy and its applications to investigations of the chromatic aberration of the eye, chromatic variations in the interval of Sturm and allied phenomena. *Amer. J. Physiol. Opt.*, 1926, 7, 76-129.—The subjective method of skiascopy utilizes the same methods as are used in objective skiascopy except that the subject himself determines the direction of the movement of the shadow cast upon the retina by the use of an object which is moved across his line of vision and held close to the eye under test while he is fixating a definite light source which serves as a fixation object. Many results are reported. From these the author concludes in part: some of the chromatic aberration curves resemble those of Nutting while others resemble those of Ames and Proctor. These differences are due to several causes, viz., the size of the ocular pupil, the structure of the eye in various zones and the degrees of obliquity of light entering the eye. "The conclusion is ventured that the criterion for the most perfect vision, from the chromatic standpoint, is that

there shall be a minimal difference in the corrective values, or, in other words, a maximal achromatism, in the interval of Sturm for those portions of the spectrum (500–650 $\mu\mu$) in which the eye is most efficient."—*S. W. Fernberger* (Pennsylvania).

764. **Shuey, A. M.** The effect of varying periods of adaptation on the flight of colors. *Amer. J. Psychol.*, 1926, 37, 528–537.—The length of adaptation influences the flight of colors qualitatively and quantitatively to a slight degree. With lengthened adaptation, the number of images containing yellow and red decreased, those in which black occurred increased, the number of images that appeared immediately decreased, the length of the images decreased, and the fluctuations became less numerous and less rapid. Adaptation apparently does not affect either the relative amount of movement or the absolute position of the image.—*G. J. Rich* (Institute for Juvenile Research).

765. **Spencer, L. T.** The validity of Heymans' law. *Amer. J. Psychol.*, 1925, 36, 427–433.—The visual threshold for white light, determined under dark adaptation, was found to increase in direct proportion with the increase in intensity of a second white light near it. The same relationship was found when the two stimuli were presented to different eyes, as well as in two unioocular subjects. These results confirm those of Heymans and support the quantitative statement of his law of inhibition. Explanations of the phenomena other than as central inhibition do not seem adequate to subsume all the facts or else are not compatible with the inhibitory view.—*G. J. Rich* (Institute for Juvenile Research).

766. **Squires, P. C.** Visual illusions, with special reference to seen movement. *Psychol. Bull.*, 1926, 23, 574–598.—A review of the recent literature.—*J. F. Dashiell* (North Carolina).

767. **Stewart, G. W.** Direct absolute measurement of acoustic impedance. *Phys. Rev.*, 1926, 28, 1038–1047.—This method of the determination of acoustic impedance (defined as the ratio of pressure to volume-current) utilizes the theory of the effect of a branch-line upon transmission in an acoustic conduit. Apparatus and procedure are outlined for this determination, and sample measurements are given for an orifice, a Helmholtz resonator, and an infinite tube.—*E. G. Wever* (California).

768. **Taylor, A. H.** Heterochromatic photometry; critical tests of the Ives standardized method. *Trans. Illum. Eng. Soc.*, 1926, 21, 804–811.—Integral transmission factors are determined for eight color filters of various hues and saturations, selected to match in color the ordinary photometric standard lamp with various types of commercial colored lighting for the purpose of simplifying the judgment in heterochromatic photometry. In the course of these determinations a comparison was made of the transmission factors for these filters obtained by computation from spectral energy and standard visibility data with those obtained by the use of the flicker photometer under the conditions proposed by Ives. In compliance with these conditions the color sensitivity characteristics for each observer to be used are obtained for yellow and blue standard solutions, which, it is claimed, are judged by the observer of normal or average color vision to have equal transmission when used to filter the light from a carbon lamp operated at 4 watts per candle. To obtain this "color sensitivity characteristic," the yellow and blue solutions are rated by the method of flicker photometry and the resultant values expressed by the ratio Y/B. The author states that experience has shown that there is a straight-line relation when the ratios Y/B obtained by different observers are plotted against their flicker photometer ratings for lights differing in color. From such a plot the value which would be obtained by an observer of normal or average color vision is found by scaling off the value for a Y/B ratio of 1. In the present study, plots of this type were ob-

tained from six observers for the eight filters under investigation. The average difference in the transmission factors obtained for these filters by the Ives method and those obtained by computation from spectrophotometric data was 5.8 per cent. The greatest difference for any filter was 17 per cent. and the least difference was 0.5 per cent. There appears to be a systematic difference between the two methods. Assuming the results obtained by computation from spectrophotometric data to be correct, the flicker photometer when used in this way gave higher values for the blue and lower values for the red end of the spectrum. The author believes that the flicker photometer used under these conditions gives results, however, which are sufficiently reliable for all practical purposes.—*G. Rand* (Bryn Mawr).

769. **Thomasson, A. H.** A simplified tangent screen with suggestions on field taking. *Arch. Ophth.*, 1926, 55, 545-554.—The construction and method of using a screen for mapping the field of vision by the "confrontation method" is described.—*C. W. Darrow* (Institute for Juvenile Research).

770. **Venable, W. M.** The Ladd-Franklin theory of color vision. *Amer. J. Physiol. Opt.*, 1925, 6, 521-526.—Discussion of the theory from the point of view of physics. He believes that the Ladd-Franklin views are "in their present form irreconcilable with many undeniable facts well known to those who have made careful studies and physical measurements of visual sensibility and retinal reactions." The problem of the relation between the brightness of a sensation of color, the color quality and the intensity of stimulation is discussed. Ladd-Franklin's denial of white and black as a disappearing pair of color sensations is principally attacked.—*S. W. Fernberger* (Pennsylvania).

771. **Venable, W. M.** The stimuli for the visual sensations. *Amer. J. Physiol. Opt.*, 1926, 7, 200-206.—From experimental evidence, the author makes the following conclusions. 1. The same kind of mathematical law applies to energy levels in the visual purple as to energy levels in the normal spectrum of hydrogen. 2. The visual reactions take place in a substance associated with the nerve, which does not absorb light, and not in the visual purple, which is the light absorbing material. 3. The visual reactions are completely reversible, and absorb or liberate minute quanta of energy, all of the same magnitude. 4. Although the nerve quanta are all alike in magnitude, two, three or six of them may be liberated or absorbed at the same time. To the number and direction of these synchronous discharges the quality of a color sensation is ascribable.—*S. W. Fernberger* (Pennsylvania).

772. **Verhoeff, F. H.** A description of a reflecting photometer. *Amer. J. Physiol. Opt.*, 1926, 7, 39-57.—Reprint of this important article, first published in 1899, which describes an apparatus for measuring the torsion of the eyes.—*S. W. Fernberger* (Pennsylvania).

773. **Warden, C. J., & Flynn, E. L.** The effect of color on apparent size and weight. *Amer. J. Psychol.*, 1926, 37, 398-401.—The apparent sizes of a series of colored cartons placed side by side do not depend upon the intrinsic qualities of the individual colors nor upon the contrast effect of the immediate context of each, but upon the specific arrangement of the series as a whole, that is, upon the *ensemble* of contrast effects produced by the total series. The apparent weights of the cartons are due in part to the intrinsic qualities of the colors themselves, and in part to the specific arrangement of the series. The color-weight illusion is greater here than is the color-size illusion.—*G. J. Rich* (Institute for Juvenile Research).

[See also abstracts 711, 790, 805, 822.]

FEELING AND EMOTION

774. Britan, H. H. The function of the emotions. *Psychol. Rev.*, 1926, 33, 30-50.—Three classes of stimuli arouse emotions: (a) objects and objective situations, (b) perception of the emotional excitement of others, (c) ideas and images. The third class, illustrated by the emotional significance of words, has not received adequate recognition in the formulation of theories of emotion, and is stressed by the writer in the theoretical part of the paper. In biological adaptation knowledge and feeling are said to have a unitary function, but the affective consciousness furnishes the "drive toward objectivity through bodily expression."—P. T. Young (Illinois).

775. Rossi, M. M. *Psicologia della felicità*. (Psychology of happiness.) *Riv. di psicol.*, 1926, 22, 149-157.—A theoretical discussion of the concept of happiness as a special type of psychological experience. It is a state, unique and apolarized (no consciousness of an opposite state), that absorbs the whole of consciousness, exemplified in the consciousness of the mystic when he feels himself "at one" with God. It may be the foundation of all of affective life from which the development of the polarized states of pleasure and pain can be explained genetically. Happiness is also an obsessive experience, but not in the pathological sense where the obsession permeates the whole of the normal psychic life.—T. M. Abel (Cornell).

776. Taylor, W. S. Discussion: the nature of the complex as compared with sentiment. *Psychol. Rev.*, 1926, 33, 68-69.—The late W. H. R. Rivers has distinguished between sentiment and complex, the former being a natural, normal organization of emotional dispositions about some object, and the latter being a distinctly pathological affair. No hard and fast line can be drawn between sentiment and complex.—P. T. Young (Illinois).

[See also abstracts 711, 783, 788, 833, 897, 934.]

ATTENTION, MEMORY AND THOUGHT

777. Büttner, G. *Erkenntniskritische Vertiefung der Reproduktionsgesetze*. (Epistemological examination of the laws of reproduction.) *Päd. Stud.*, 1926, 47, Heft 4 & 5, 158-167.—Discusses Dorpfeld's reduction of Aristotle's four laws of association (simultaneity, succession, similarity, and oppositeness) to two (simultaneity and similarity), and finally to one. Concludes that reduction to two is justified but not the reduction to one. The duality of the laws rests upon the duality of knowledge, which consists of the two elements of thought and of perception.—F. N. Freeman (Chicago).

778. Dashiell, J. F. Is the cerebrum the seat of thinking? *Psychol. Rev.*, 1926, 33, 13-29.—(Address of the President, The Southern Society for Philosophy and Psychology, Chapel Hill, April 13, 1925.) The investigation of thinking is handicapped by the view that the process is purely intracerebral. To regard thinking as physiologically more general opens the road to experimental studies with refined instrumentation. Thinking is essentially a matter of problem solving through trial and error. The more important activities of the process are not explicit; they are hidden from the view of the common man. In the study of thinking the problem of meaning is central. Meaning may be regarded as abbreviated, anticipatory reaction to an object. Visceral and other internal reactions must be taken into account. The above view is consistent with the stimulus-response mode of conceiving psychological phenomena and also with the introspective descriptions of thinking; it may serve as the basis for a future physiology of thinking.—P. T. Young (Illinois).

779. Stoddard, G. D. Discussion: the problem of individual differences in learning. *Psychol. Rev.*, 1925, 32, 479-485.—A discussion of Miss Kincaid's study of "Individual Differences in Learning."—P. T. Young (Illinois).

[See also abstracts 708, 713, 721, 733, 743, 756, 757, 796, 952, 962.]

NERVOUS SYSTEM

780. Freeman, W. Columnar arrangement of the primary afferent centers in the brain-stem of man. *J. Nerv. & Ment. Dis.*, 1927, 65, 1-20.—After reviewing Kapper's study it is pointed out that the innervation of the head is not well known with respect to the cutaneous fibers from the lower cranial nerves. The study of the herpes zoster area is suggested as a useful method. A case is cited when the recovery from anaesthesia following radical avulsion of the posterior root of the Gasserian ganglion shows that the field of the 7th nerve includes the whole of the anterior surface and lobe of the ear. The area is not insensitive after paralysis of the 5th or 7th nerve separately, so it seems to be supplied by both of these nerves. When both the 5th and 7th nerve were paralyzed the N. glossopharyngeus seemed to innervate the concha, posterior auditory canal and posterior surface of the helix. Discussion of deep sensibility shows that probably the 5th nerve conveys some of these fibers. The deep sensibility of the muscles of the face and jaws seems to be more of a visceral type and the fibers are carried in the 9th and 10th nerves. The fields of the 7th and 9th nerves are less well defined in this connection. The gustatory fibers run in the 7th, 9th and a few in the 10th, but none in the 5th. The article is discontinued in the midst of a discussion of the entering dorsal root fibers.—O. W. Richards (Boston Psychopathic Hospital).

781. Pollock, L. J., & Davis, L. Studies in decerebration. IV. Integrated reflexes of the brain stem. *Arch. Neur. & Psychiat.*, 1927, 17, 18-27.—Two groups of animals were prepared; in one only a double ligature of the basilar artery was made, and in the other a ligation of the basilar artery was made just posterior to the pituitary fossa, and the carotid arteries were then tied. When righting and tonic or standing reflexes are intact a normal distribution of tone is present. When tonic reflexes are destroyed in an otherwise normal animal flexor patterns (kangaroo position) predominate. When the righting reflexes are only partially destroyed in a decerebrate animal both flexor and extensor rigidity may be produced by suitable stimulation (high-tie and double-tie animals). When the righting reflexes are absent in a decerebrate animal labyrinthine tonic reflexes predominate, and extensor rigidity occurs (ordinary decerebrate animals). When in such an animal the labyrinths are destroyed, flexor rigidity usually occurs spontaneously, but extensor rigidity can then be produced by the neck tonic reflexes. This preparation has at least permitted the regular determination of the existence not only of the decerebrate rigidity and extension, but also of flexion and other reflexes in the brain stem. The level of the decerebration can be accurately determined by intravital injection of methylene blue through the general circulation. All of the red nucleus can be destroyed and decerebrate rigidity produced. It is stated in conclusion that a decerebration is not synonymous with decerebrate rigidity. A decerebrate animal has many reflex activities.—I. Rappoport (Boston Psychopathic Hospital).

[See also abstracts 711, 778, 787, 791, 793, 848, 854.]

MOTOR PHENOMENA AND ACTION

782. **Brammer, G.** The static equilibrium of airplane pilots. *J. Comp. Psychol.*, 1925, 5, 345-364.—Using the Miles ataxiometer on flying pilots at Crissy Field and then working out correlations of such records with the records already in the possession of the field officials, it was found that the station test of standing quietly produces slight practice-effects. Records obtained with the eyes closed correlated with records obtained with the eyes open as highly as 0.54 in the ability to maintain station. Large variations, however, in the pilots were found, varying from 53 to 86 per cent.; with non-flyers this range of variability was from 46 to 81 per cent. Flying time of the pilots correlated to no significant degree with the ability to maintain station. Flying, although it does not train down the specific ability to maintain station, does, however, develop some kin-aesthetic factors which aid the pilot; which aids are lacking in non-flying persons. A high correlation of flying time with grade of aviation ability indicates that the officers of the field had made fair estimates of the abilities of the pilots. The correlation between grade of aviation ability and average station score was negligible. The practice factor, with the ataxiometer, appears to have no significant relation to the flying aptitude. No significant correlation existed between variability in station tests and ability to fly or the number of hours of a pilot's flying. Poor flyers vary widely in station records as between having their eyes open and having them closed, such a great difference not characterizing good flyers; this fact may be useful in selecting competent pilots. Nine references are given.—*H. R. Crosland (Oregon)*.

783. **Burt, H. E., & Tuttle, W. W.** The patellar tendon reflex and affective tone. *Amer. J. Psychol.*, 1925, 36, 553-561.—Stimulus words—supposedly pleasant, unpleasant and indifferent—were presented visually just prior to certain stimulations of the knee jerk, the reflex being elicited periodically. There was a depression of the reflex on the average for the unpleasant stimulus words amounting to 16%. There were slight and less consistent indications of a similar depression for pleasant words. The average association time for unpleasant stimuli was slower than for indifferent stimuli. The correlations between extent of reflex and association time tended to be negative. This result suggests that the depression of the reflex and the slowing of the association time involve the same aspect of the stimulus, presumably the affective tone.—*G. J. Rich (Institute for Juvenile Research)*.

784. **Cason, H.** The physical basis of the conditioned response. *Amer. J. Psychol.*, 1925, 36, 371-393.—The physical basis of the conditioned response is described in terms of changes which take place at the junction of two simultaneously active neurones, such that the point of union becomes functionally active. Four factors are involved. A change in the structure of the membrane of the efferent neurone at the point of contact produces a situation more favorable for the passage of a nervous impulse. There is reason to believe that the processes of the two cells move toward each other when the system is active. Facts gathered from colloid chemistry establish a definite relation between the action of such a system of neurones and a certain swelling phenomenon in the nerve cell. The swelling and the consequent changes in electrical conductance likewise create a situation favorable for the passage of a nervous impulse. Finally, a change in the surface tension assists in the formation of a neural connection. The relative permanence of these types of changes makes possible a partial explanation of many of the observed differences in impressibility and retentiveness of various individuals.—*G. J. Rich (Institute for Juvenile Research)*.

785. **Dodge, R.** The problem of inhibition. *Psychol. Rev.*, 1926, 33, 1-12.—Varieties and types of inhibition are considered. The importance of the prob-

lems of inhibition both for physiology and for psychology is discussed with references to historical studies.—*P. T. Young* (Illinois).

786. **Dodge, R. Theories of inhibition. Part I.** *Psychol. Rev.*, 1926, **33**, 106-122.—The chief theories of inhibition are listed and considered critically. An experimental test of the drainage theory is described. Theoretical difficulties and the experimental test combine to render the drainage theory of inhibition highly improbable.—*P. T. Young* (Illinois).

787. **Dodge, R. Theories of inhibition. Part II.** *Psychol. Rev.*, 1926, **33**, 167-187.—The paper deals with the refractory phase hypothesis of inhibition. Dodge considers the nature of refractory phase inhibition, the evidence upon which the hypothesis rests, the importance of the hypothesis for psycho-physical theory, certain difficulties involved, and other topics. An experimental test of refractory phase inhibition is described. Stimuli too weak to evoke the knee jerk or the lid reflex are found to inhibit the response to normal stimuli when the latter fall within the refractory phase of the former. The experiments furnish further evidence for the existence of refractory phase inhibition.—*P. T. Young* (Illinois).

788. **Dunlap, K. Instinct and desire.** *J. Abn. & Soc. Psychol.*, 1925, **20**, 170-173.—An answer to the charge that in rejecting "instincts" the author has only accepted them under the name of "desires." These, however, are defined as a "strictly peripheral factor something on the same plane as 'sensation' or 'percept,' introspectively an object of experience and physiologically a process or condition in some tissue outside of the nervous system, which stimulates or excites certain receptors." The blending with introspection of the terms of the definition should not confuse the psychologist. If instead of "desire" the name "desire-feeling" were given, the matter might be clearer. What has been described as "desire" is quite apart from any cognitive reference but rather a classification as "feeling" or "affective content." Although frequently referred to objects they may occur without distinct reference to any object. Because of the difficulty in proceeding without referring them to typical objects, the term "radical of desire" is suggested to indicate the desire-feeling.—*E. F. Symmes* (Boston Psychopathic Hospital).

789. **Heller, Th. Über motorische Rückständigkeiten bei Kindern.** (On motor retardations in children.) *Zsch. f. Kinderforsch.*, 1925, **30**, 1-10.—In addition to cases of deficient general motor ability in profound idiocy the author distinguishes cases of partly general and partly partial motor disturbance in children who possess normal intellectual development. The causes here lie partly in deficient attention to the bodily functions (lack of opportunity for exercise, deficient volitional impulse), and partly in psychic inhibitions. The relations between intellectual and motor development indicate that an increase in manual skill may be looked upon as favorable to mental activity.—*A. Argelander* (Jena).

790. **Hess, W. R. Experimentelles zur Dynamik der Augenmuskeln.** (Experimentation on the dynamics of the eye-muscles.) *Arch. f. Augenhk.*, 1926, **97**, 460-466.—Reference is made to a graphic method of quantitatively studying coördination, balance or paralysis of the extrinsic eye-muscles. If the normally controlled eye fixates successive points in a predetermined pattern, the displacement and distortion of the corresponding fixation pattern of the defective eye indicates the nature and extent of the defect. Application of the method is made to paralysis of the superior oblique muscle, and its suitability for discovering facts of normal eye-movement is pointed out.—*S. M. Newhall* (Yale).

791. **Kraus, W. M. Erectness in man.** *Arch. Neur. & Psychiat.*, 1927, **17**, 1-11.—The following factors underlying erectness are discussed: erectness as one of the stereotyped postures; postures used by various animals in progression in relation to human erectness; relation to sitting, squatting, climbing, standing,

walking and running; ontogenetic development in man; muscular aspect; centers and paths; and erectness as a righting reflex. Disorders of physiologic activities (other than the postural) affecting erectness are discussed with the important principle reëmphasized; namely, that posture, tone, synergy and kinesis can never be identified with one another in their effects or in their mechanisms. It seems to the author, however, that the most important part of erectness is the afferent side, which is still untouched. The questions are: What has attracted the center for erectness in man to a level above that of the red nucleus? Near which new sensory station has it appeared? Indeed, what new sensory station has appeared that would demand erectness as a concomitant manifestation?—*I. Rappoport* (Boston Psychopathic Hospital).

792. **Krizenencky, J., & Podhradsky, J.** Zur Frage der entwicklungsmechanisch-antagonistischen Wirkung der Thymus und der Thyreoidea. (Versuche an Kaulquappen.) (On the question of the developmentally antagonistic functioning of thymus and thyroid. Investigations on the tadpole.) *Arch. f. Entwicklmech.*, 1926, 103, 68-83.—Aqueous extract of thymus gland even in the largest doses (50 ccm. extract to 500 ccm. water) had no influence on the developmental changes of this animal, and no effect on the acceleration of these changes which is produced by thyroid extract. On growth in length it was also without influence acting alone, but when growth was checked by thyroid, thymus in high concentration (32-50 ccm. in 500 ccm. water) worked antagonistically to stimulate the inhibited growth. The authors are not sure, however, whether this antagonism was exerted through the life processes of the animal or by a direct action of one substance on the other (in vivo or in vitro). The results in general do not support the older view that thymus extract inhibits metamorphosis and increases growth.—*M. F. Washburn* (Vassar).

793. **Meyer, M. F.** Some nonsense about the "common path." *Psychol. Rev.*, 1925, 32, 431-442.—The paper is a critical discussion of three popular terms. "Random" responses, in the sense of the genetic psychologists, have no place in science. The term "conditioning" is used by psychologists in an inadequate manner. The "common path" is described as "the intermediate tissue which bridges over the tissue making up two, three, or more reflex paths."—*P. T. Young* (Illinois).

794. **Robinson, E. S.** Principles of the work decrement. *Psychol. Rev.*, 1926, 33, 123-134.—Starting from the discussions of Thorndike and Dodge regarding the decrement in the efficiency of continuous work, Robinson formulates in terms of stimulation and response seven principles of the work decrement.—*P. T. Young* (Illinois).

795. **Seki, K.** Study in physical exercises and fatigue. *Jido Kenkyu-sho Kiyo* (Summary Report of the Institute of Child's Study), 6, 1923.—Before and after exercises in balancing, jumping, suspending, exercises of legs, trunk, arms, and lungs, esthesiometric measurements were taken on the volar surface of forearm, middle part, radial side, along the long axis, with 69 girls from 9 to 20 years. 3 to 8 girls were represented at each age. The differences in threshold in mm. were designated as fatigue values. The results were as follows:

Exercise	Legs	Trunk	Arms	Lungs	Jump.	Suspend.	Balanc.
Fatigue value	6.0	4.0	2.0	0	7.0	6.5	8.8
m. v.	4.03	4.43	2.65	5.60	4.54	4.12	5.20
Rank	IV	V	VI	VII	II	III	I
%	63	45	23	0	80	74	100

Balancing exercise fatigues the most; respiratory exercise, the least. The fatigue value distribution in ages is as follows:

Age	9	10	11	12	13	14	15	16	17	18	19	20
Fatigue value	5.1	7.7	6.6	4.8	1.9	5.5	9.4	6.7	8.7	10.2	6.6	4.6

The fatigue values are the greatest in years 10, 15, and 18; the least in years 13, 20, 9, and 16. Fatigue is the least in years when development is the greatest; fatigue is great in years when development is slow.—*J. G. Yoshioka* (California).

796. **Skaggs, E. B.** The concept of retroactive inhibition. *Psychol. Rev.*, 1926, **33**, 237-244.—The paper raises several questions regarding the definition of retroactive inhibition. Reference is made to experimental studies.—*P. T. Young* (Illinois).

797. **Trow, W. C., & Sears, R.** A learning plateau due to conflicting methods of practice. *J. Educ. Psychol.*, 1927, **18**, 43-47.—The activity employed in this study was card sorting. The subject sorted the 52 cards into four piles. During the practice period the cards were sorted six times. At first there were ten daily practice periods followed by an interval of 24 days of no practice. After this interval there were ten more days of practice, then a forty day interval of no practice, and then a final series of nine practice periods. The plateau came very near the beginning of the practice periods and was due to the continual shifting of the method of holding the cards in the left hand and removing them with the right. The plateau was eliminated as soon as the learner discovered a new method of holding the cards and of dealing them which, as soon as he had adopted it as the one to be used on all occasions, produced a very noticeable rise in the curve. The author concludes that in much learning the most important work for its director is to aid in selecting the best method.—*A. M. Jordan* (North Carolina).

798. **Völker, H.** Tagesperiodische Schwankungen einiger Lebensvorgänge des Menschen. (Diurnal variations of some vital phenomena of man.) *Pflüg. Arch. f. d. ges. Physiol.*, 1926, **215**, 43-77.—Variations in body temperature, pulse, blood pressure, respiratory exchange, and renal secretion show similar relationships. Periodicity is clearer during a three-day fast than under conditions of normal nutrition and clearer when the subject is resting in bed than when engaged in light work. Diurnal periodicity is independent of solar position (e.g., in Iceland during the season of the midnight sun); it is therefore fixed by local time conditions. Temperature variations in the subject show close relations to periodicities in plant movements and atmospheric conductivity to electrical disturbances. It is suggested that all three periodicities are due to some underlying cosmic principle.—*L. T. Spencer* (Yale).

799. **Young, P. T.** The phenomena of organic set. *Psychol. Rev.*, 1925, **33**, 472-478.—The paper illustrates biological "set" by a series of examples taken from general biology, physiology, psychology, and daily life. It is suggested that a single doctrine of "set" may adequately account for psychological and physiological phenomena.—*P. T. Young* (Illinois).

[See also abstracts 724, 745, 804, 806, 811, 830, 833, 854, 930, 936, 957.]

PLANT AND ANIMAL BEHAVIOR

800. **Avery, G. T.** Notes on reproduction in guinea pigs. *J. Comp. Psychol.*, 1925, **5**, 373-396.—Much as Stone had done with respect to the white rat, Avery has described how both male and female guinea pigs act in pursuing, being caught, licking and being licked, fondling and being fondled, mounting and being mounted, intromission of the penis, palpation, and the like, characteristic of copulation. He also gives the age at which sexual activity begins in

each, and the duration of the oestrus in the female. The male apparently discovers the receptivity of the female by a trial-and-error method, usually after having mounted or having tried to mount. Male guinea pigs, reared in isolation or with one another, may contain homosexuals in their number. A bibliography of 21 references is given.—*H. R. Crosland* (Oregon).

801. Carmichael, L. The development of behavior in vertebrates experimentally removed from the influence of external stimulation. *Psychol. Rev.*, 1926, 33, 51-58.—Embryos of the frog (*Rana sylvatica*) and of the salamander (*Amblystoma punctatum*) were kept in chloretone solutions which inhibited movement without retarding maturation. When the larvæ were removed from the anæsthetic and placed in tap water they exhibited response to stimulation in times varying from 5 to 28 minutes. The observations have a bearing upon the problem of learning vs. maturation as factors in the development of behavior. The writer assumes that heredity and environment are interdependently involved in the perfection of behavior.—*P. T. Young* (Illinois).

802. Claparède, Ed. Mémoire chez la poule. (Memory in a hen.) *Arch. de Psychol.*, 1926, 20, No. 78, 170.—In the spring of 1925 a hen had been trained to eat only on pink. A year later she executed this trick correctly at the first trial, although she had never repeated it in the interval.—*Ed. Claparède* (Geneva).

803. Dashiell, J. F. A quantitative demonstration of animal drive. *J. Comp. Psychol.*, 1925, 5, 205-208.—Elementary psychology students can easily comprehend the principle of "drive" in animal behavior if presented with numerical records of the visitations by hungry animals to various compartments or squares of a modified maze as compared with visitations of fed animals.—*H. R. Crosland* (Oregon).

804. Dashiell, J. F., & Helms, H. A. The learning by white rats of an inclined plane maze. *J. Comp. Psychol.*, 1925, 5, 397-405.—Three criteria of learning were used: (1) the form of the learning curve plotted for errors, one curve for each of nine animals, (2) whether the errorless runs exceeded the number that chance alone would have afforded (the maze was a three-alternative set of paths), and (3) whether in the 200 trials of each animal, pooled but divided into quarters of 50 each, any progressive learning was evidenced by a steady increase in number of errorless runs. It was found that under (1) five animals showed some increase in ability to follow the correct path by its inclination; under (2) five animals gave a larger than chance-determined number of errorless runs; and under (3) three animals showed some learning. It is concluded that the experiment did not satisfactorily isolate the influence of the proprioceptors, because the semicircular machinery could still be influential; although the author believes that vision played no part, due to the maze being reversible and changeable in its parts, so that the inclination could be kept constant; and because on an incline visual perception would give only an inclination parallel with the animal's body. It is suggested that extirpation of the canals does not promise a method of control because such an operation would in itself seriously interfere with locomotion; similarly, anaesthetization of proprioceptors or cautery of the post-Rolandic area would seriously interfere with locomotion, at least temporarily.—*H. R. Crosland* (Oregon).

805. de Haan, J. A. B. Experiments on vision in monkeys. I. The color-sense of the pig-tailed macaque (*Nemestrinus nemestrinus* L.). *J. Comp. Psychol.*, 1925, 5, 417-453.—A young male monkey distinguishes between red, blue, green, and yellow; between colors and white-black; and colors from grays when placed in a multiple choice box, the door leading to food being designated by a given color, practice having been given beforehand and the food door being varied in position but kept constant in color or brightness designation. He was

not able to distinguish between two grays closely alike in brightness. It was thought that the possibilities of other cues of discrimination, such as textures, markings, shapes, smell, etc., had been eliminated. Another animal of the same species also distinguished between red and green. 23 references are given.—*H. R. Crosland* (Oregon).

806. **Dunlap, K.** *Adaptation of nystagmus to repeated caloric stimulation in rabbits.* *J. Comp. Psychol.*, 1925, 5, 485-493.—Somewhat as I. H. Jones has proceeded with human subjects, Dunlap and his students douched the ears of two rabbits with water one degree below that of melting ice, from a stimulation lasting zero seconds up to a stimulation of 5 minutes, on alternate days, giving three stimulations per day with suitable rest periods between the three. In the beginning of the experiment, only the left ear of each animal being stimulated, nystagmus (eye? or head?—presumably the former) became evident very quickly, but after the 8th and 11th days could not be aroused in these two animals for this ear and this method of stimulation. Preliminary tests had given some index of the normal, untrained nystagmus activated through the right ear; with the first technique, three trials each day, on alternate days, five minute duration of douching, almost no transfer characterized the nystagmus of right vestibule; but with a three-minute duration of douching daily on the left ear there was some transfer to the nystagmus of the opposite side, the right vestibular nystagmus being reduced somewhat and changed in character by the practice given the left. Therefore, agreeing with Holsopple's, Dunlap's results indicate that whether or not transfer will occur depends upon the length of stimulation, the duration of the rest period, and the position the animal is in while practice is being given to a given canal. Certainly the supposedly unmodifiable reflexes of the eyes (and head) consequent upon semicircular stimulation are modifiable, and moreover, if there is transfer from left ear to right, these reactions are not wholly peripherally stimulated and trained.—*H. R. Crosland* (Oregon).

807. **Eggers, F.** *Versuche über das Gehör der Noctuiden.* (Experiments on the hearing of the Noctuidae.) *Zsch. f. vergl. Physiol.*, 1925, 2, 297-314.—The Noctuidae react to sound stimuli of different kinds by flying up. Animals sitting in a position of rest with wings bound react less frequently. The tympanal organs are probably to be looked upon as the sense organs as in other insects.—*F. Pauli* (Leipzig).

808. **Homann, H.** *Zum Problem der Ocellenfunktion bei den Insekten.* (On the problem of the function of the ocelli in insects.) *Zsch. f. vergl. Physiol.*, 1924, 1, 541-578.—The eye constants of the ocelli of a number of insects were determined by means of a microscope and a vertical illuminator. Light of great intensity with little dilution reaches the ocelli so that probably they can serve only for the reception of brightness and the direction of light, and thereby complement the weak light eye facets. Their function could not be determined by experimental methods.—*F. Pauli* (Leipzig).

809. **Koehler, O.** *Über das Farbensehen von Daphnia magna Straus.* (On the color vision of *Daphnia magna* Straus.) *Zsch. f. vergl. Physiol.*, 1924, 1, 84-174.—In the condition of adaptation to darkness as well as in adaptation to extremely bright light the *Daphnia* does not react to colors, but only to differences in brightness. In the condition of intermediate adaptation on the other hand it discriminates light of long wave length and of short wave length according to color quality. Very probably the animal senses successive contrasts in brightness and color while this can not be demonstrated for simultaneous contrasts. Blue-green and purple are probably not seen as colors. The experiments with Hering pigment papers lead to the same result as those with spectral colors.—*F. Pauli* (Leipzig).

810. Kuroda, R. A contribution to the subject of the hearing of tortoises. *J. Comp. Psychol.*, 1925, 5, 285-291.—*Clemmys japonica* can be conditioned to refrain from eating during the ringing of a bell by the method of presenting the ringing and an electric shock simultaneously during the feeding, if sufficiently repeated; hence this organism is supposed to possess acoustic abilities.—H. R. Crosland (Oregon).

811. Liddell, H. S. The relation between maze learning and spontaneous activity in the sheep. *J. Comp. Psychol.*, 1925, 5, 475-483.—35 lambs were caused to learn a simple maze; their spontaneous activity over a period of from 4 to 37 days was observed and recorded by means of a pedometer attached to the foreleg of each animal and worn in the pasture where the animal was free to walk around or run all day long. 152 comparisons between spontaneity and maze-ability showed that almost no relation existed between the two. If such a relationship exists, a technique more refined than the maze must be used to discover and measure it. Four references are given.—H. R. Crosland (Oregon).

812. Matthes, E. Das Geruchsvermögen von Triton beim Aufenthalt an Land. (The ability to smell in the triton when kept on land.) *Zsch. f. vergl. Physiol.*, 1924, 1, 590-606.—Previous experiments have shown that the salamander reacted to chemical stimuli (juice of earthworms, grated meat) on land. The reaction took place in blinded animals as well. With unilateral severing of the olfactory nerve and temporary closing of the intact nostril the reaction does not take place, while the same animals, after the removal of the plug react like normal animals. The ability to smell on land is therefore demonstrated. In an earlier work the author has already shown that the salamander can also smell under water.—F. Pauli (Leipzig).

813. Miller, D. F., & Gans, M. Some observations on the reactions of the ant *Cremastogaster lineolata* (Say) to heat. *J. Comp. Psychol.*, 1925, 5, 465-473.—Ants traveling a well-established path will be deflected, negatively or positively depending upon the intensity of the heat, by a body emitting radiant heat placed on one side of the path. A body absorbing heat will also produce these effects on the actions of the ants. Convective currents, over the path, bring about loss of orientation and sometimes lack of movement in the ants. The sun, if at the proper angle, produces the same effects obtained by artificial heat stimuli. Four references are given.—H. R. Crosland (Oregon).

814. Pratt, K. C. Thermokinetics of *Cremastogaster lineolata* (Say). *J. Comp. Psychol.*, 1925, 5, 265-269.—Ants, in their progression home after they have been away, travel at a rate of speed which correlates as much as plus 0.92 with the temperature of the course which they are traversing, and the rate of egress from home correlates as much as plus 0.897 with the temperature of the terrain. The rate of leaving home is thus faster than that of the return. Humidity gives almost no correlation. It is suggested that this species manifests thermokinesis.—H. R. Crosland (Oregon).

815. Reese, A. M. Phototactic reactions of *Alligator mississippiensis*. *J. Comp. Psychol.*, 1925, 5, 69-73.—Using boxes lighted at one end by lights, monochromatic or multichromatic, and dark at the other end, the investigator demonstrated that most of the animals congregated in the lighted ends of the boxes, but that they faced away from monochromatic lights of the cooler end of the spectrum and advanced toward the warmer colors. A wooden partition in the box, making turning difficult, perhaps makes the results of the monochromatic series equivocal.—H. R. Crosland (Oregon).

816. Révész, G. Experimental study in abstraction in monkeys. *J. Comp. Psychol.*, 1925, 5, 293-343.—Even though he is intelligent enough to react successfully to a 4-alternative Yerkes multiple choice situation involving geometrical figures as stimuli, the monkey cannot be brought to unfailing accuracy as easily as can many a lower animal, because he is too inquisitive and too distracti-

ble and too susceptible to irrelevant stimuli. A technique which consisted of conditioning the animal to obtaining food by going through a door painted a certain color in one case, and in another by going through a door bearing a given geometrical design, and then later juxtaposing or reversing the conditions and using geometrical designs deviating slightly or greatly from the original ones, brought to light the facts that the animal reacts more unfailingly to differences in coloration than to differences in form if the forms are greatly similar, but that the form-stimulus is carried more frequently into the abstraction period than is color. It is concluded that the successful performances of an animal in these tests need not presuppose an abstraction capacity, although the ability to recognize or to react successfully now to parts of a previously presented whole, by some regarded as the cognition of similarity, is a step in the genesis of abstraction-ability.—*H. R. Crosland (Oregon)*.

817. **Richter, C. P.** Some observations on the self-stimulation habits of young wild animals. *Arch. Neur. Psychiat.*, 1925, 13, 724-728.—The author reports some observations made on the self-stimulation habits of three wild animals: a coatimundi, which sucked its left knee; a kinkajou, which practised autofellatio; and a spider monkey which sucked its fingers. Sucking is the important thing, according to the author, not the part of the body involved.—*D. Shakow (Boston Psychopathic Hospital)*.

818. **Sams, C. F., & Tolman, E. C.** Time discrimination in white rats. *J. Comp. Psychol.*, 1925, 5, 255-263.—With two alternative paths in a maze equal in every respect except that the animal was detained in a detention chamber 1 minute before being allowed to enter one alley and 6 minutes before allowed to enter the other alley, with the food now reachable by path one and now by path two, the investigators discovered that almost invariably the animal will learn to seek food through that path, the entrance to which has been delayed for the shorter period of time. A threshold of difference of delay was worked out for one animal; it was a ratio between 1:4 and 1:5 minutes.—*H. R. Crosland (Oregon)*.

819. **Scheidemann, N. V.** Discussion: some reasons for Koffka's and Thorndike's opposing views in regard to animal intelligence. *Psychol. Rev.*, 1926, 33, 64-67.—Reasons for the discrepancy between the views of Koffka and Thorndike are presented in tabular form.—*P. T. Young (Illinois)*.

820. **Striek, F.** Untersuchungen über den Geruchs- und Geschmacksinn der Ellritze (*Phoxinus phoxinus*). (Studies on the sense of smell and the sense of taste in the minnow (*Phoxinus phoxinus*).) *Zsch. f. vergl. Physiol.*, 1924, 2, 122-154.—Training experiments with taste materials (grape sugar, acetic acid, quinine, common salt) show that the fish can discriminate these materials well, even after the extirpation of the forebrain. Skatol, coumarin and artificial musk were used in the experiments with smell materials. These materials were also discriminated, but only when the olfactory brain was uninjured. In all the experimental animals the eyes were extirpated. The fish thereafter still possessed the senses of smell and taste.—*F. Pauli (Leipzig)*.

821. **Tsai, C.** The relative strength of sex and hunger motives in the albino rat. *J. Comp. Psychol.*, 1925, 5, 407-415.—Presenting two stimuli, a member of the opposite sex in heat in one compartment and food in another compartment, simultaneously, and similarly situated but on opposite sides of a two-alternative problem maze, to 19 adult male rats which had been orientated to the apparatus by feeding and by companionship with a female in heat, the author determined that these males chose the food compartment more often than they chose the female-in-heat compartment; viz., in 77% of all choices. The choices of food increased somewhat with practice. The results confirm a discovery by Moss. Three references are given.—*H. R. Crosland (Oregon)*.

822. von Frisch, K. **Farbensinn der Fische und Duplizitätstheorie.** (Color sense of fish and the duplicity theory.) *Zsch. f. vergl. Physiol.*, 1925, 2, 393-452.—The rods and the cones occupy different positions on the retina of the fish, according as the animal was kept in darkness or in bright daylight before the fixing. In the first case the cones lie in the foreground and the rods backward, in the second case it is just the reverse. Question: Do these positions coincide with color vision on the one hand and with total color blindness on the other? Fish trained to red (sticklebacks, minnows, gudgeons) lose the color discrimination if they are removed to twilight. The degree of brightness at which this change takes place varies for the different species. Immediately after the experiments the individual animals were preserved, and the microscopic examination yielded an affirmative answer to the foregoing question. Color vision, however, is not unconditionally connected with cone contraction. After transition from complete darkness to adequate bright light color discrimination results before the cones have taken the brightness position. Biological grounds are adduced for this.—F. Pauli (Leipzig).

823. Warden, C. J. **The value of the preliminary period of feeding in the problem box.** *J. Comp. Psychol.*, 1925, 5, 365-372.—Using two groups of white rats each containing 14 individuals, the investigator fed one group 10 minutes a day for seven days, in the problem box to be used, prior to the main experiment. The other group, instead of being fed, were given 1 trial a day during the 7 days of preliminary orientation; both groups were given twenty trials in the main experiment. The first group started the maze-problem at a higher stage of learning than the second group; the second group finally arrived at the same efficiency as that of the first group; but the second group had had 27 trials while the first group had had only 20 trials plus seven days of feeding within the maze. Therefore, feeding in the maze eliminates fear and possibly also starts learning in those animals which are given such preliminary orientation. The author makes a plea for the standardization of preliminary orientation in lower animals prior to their being submitted to various experimental tests, etc.—H. R. Crosland (Oregon).

[See also abstracts 717, 792, 830.]

EVOLUTION AND HEREDITY

824. Cleeton, G. U. **Discussion: Dr. Watson's theory of developmental capacity.** *Psychol. Rev.*, 1926, 33, 59-63.—Two criticisms of the thesis of Watson presented in his lectures dealing with developmental capacity.—P. T. Young (Illinois).

825. Gates, R. R. **Aspects of physical and mental inheritance.** *Nature*, 1926, 118, 663-665.—Mendelian principles are to be related to the chromosomes and their minuter elements. Analysis of the mind must proceed further before the inherited mental units can be specified. Perhaps "the only way to determine what are the inherited units is by comparing the mentality of parents with that of their children and relatives."—J. E. DeCamp (Pennsylvania State).

[See also abstract 801.]

SPECIAL MENTAL CONDITIONS

826. Anderson, F. A. **Psychopathological glimpses of some Biblical characters.** *Psychoanal. Rev.*, 1927, 14, 56-70.—In the Biblical account of the lives of Jacob, David, and Paul, the author finds evidences of psychopathological con-

ditions. Jacob, softened and spoiled by his mother, becomes narcissistic—"a typical neurotic"—who sacrificed kinship, traditions, religion, and responsibilities on the altar of his egocentricity. David, sensitive, patient, courageous, and self-sacrificing, was ruled by impulses, and his actions became incongruous and unstable. The urge was sexual. Paul, finding himself between Jews and Christians and committed to the latter, becomes hysterical, sees visions, and becomes blind.—A. H. Sutherland (Scarborough School).

827. [Anon.] **Science and spiritualism.** *Nature*, 1926, 118, 721-723.—There seems to be no good reason for the publication of further correspondence from contributors on the physical phenomena of spiritualism. (This correspondence was started by J. Tillyard's review of A. Conan Doyle's "The History of Spiritualism," wherein he made a plea for "a wider and more generous outlook on the part of science towards these phenomena." Notes favorable to Tillyard's view were contributed by Doyle, Price, French and Lodge, while critical notes were contributed by Lotsy, Swinton, Donkin, Dingwall and W. W. L.—J. E. D.) The rift between the spiritualists and the scientists remains. The scientifically trained are scarcely convinced of the veridical nature of outstanding psychical phenomena. Crookes' spirit partner in a well lighted room was an isolated and uncertain phenomenon which was never repeated. Deception is the most probable explanation of spirit photographs and the direct voice. "It is for science to stem the tide of superstition and sift the true from the false." It is highly desirable that such a body as the Society for Psychical Research should exist and have as its function the investigation of alleged "supernormal" occurrences.—J. E. DeCamp (Pennsylvania State).

828. Bain, R. **Spencer's love for George Eliot.** *Psychoanal. Rev.*, 1927, 14, 37-55.—The author selects passages from Herbert Spencer's "Autobiography," Duncan's "Life of Herbert Spencer," Deakin's "Early Life of George Eliot," Cross's "Life and Letters of George Eliot," and other sources, to support the theory that Herbert Spencer was "dogged by the nemesis of a deep love unreturned." His health failed when he saw his best friend (George Henry Lewes) become the accepted lover. He plunged into work to get away from the disappointment and suffered a breakdown. It is the author's contention that the breakdown was due not simply to work, but to the undermining of health through the wounded ego, which was susceptible because of unstable ancestry, the "only child" psychosis and its attendant "flight from reality."—A. H. Sutherland (Scarborough School).

829. Bostwick, A. E. **Spatial and time relations in dreams.** *Nature*, 1926, 118, 627.—Hypnopompic imagery is confirmed.—J. E. DeCamp (Pennsylvania State).

830. Chauchard, A. & B. **Action du curare sur l'appareil électrique de la torpille.** (Action of curari on the electric apparatus of the torpedo.) *C. r. Acad. sci.*, 1926, 183, 79-81.—Injection of relatively large doses of curari in the torpedo disturbs the isochronism of action normally existing between the electric nerve and its organ. The influence of the drug is upon the organ rather than upon the electric nerve.—J. E. DeCamp (Pennsylvania State).

831. Cronbach, A. **Religion and psychoanalysis.** *Psychol. Bull.*, 1926, 23, 701-713.—A review of literature.—J. F. Dashiell (North Carolina).

832. Farrow, E. P. **Castration threats against children.** *J. Nerv. & Ment. Dis.*, 1927, 65, 21-30.—This paper indicates that castration threats against children are more common than is usually supposed. The exhibitionism that frequently follows the discovery of the genitalia in small boys causes people to make the threat jokingly. The after-effects of the fear caused by these threats are discussed, and the writer makes emphatic the caution that such threats should never be made and that children should be guarded from exposure to them.—O. W. Richards (Boston Psychopathic Hospital).

833. **Folsom, J. K.** The conditioned response and personality. *Indus. Psychol.*, 1926, 1, 804-809.—Personality and character traits are reduced to a series of emotional attitudes that are acquired through the processes of "conditioning" and "trial and error" learning. Among the attitudes that are important in vocational adjustment are: attitudes toward persons and personal relationships, attitudes toward conversation, attitudes toward paper, pencil and record keeping, attitudes toward materials and equipment, attitudes toward time, attitudes toward decisions and uncertainties, and attitudes toward repetition and change. They may be illustrated by the attitude toward time, to which the personality trait of promptness is reducible. Lack of promptness is a matter of underestimation of the time required to do a thing or to go to a certain place. But an emotional element is involved too. To work by the clock may make the person nervous; he likes to take his own time for things and is irritated when this privilege is denied him. All such attitudes are acquired, but some of them are so permanently fixed, perhaps as the result of some vivid experience, that they cannot be changed except by the help of a psychiatrist.—*A. T. Poffenberger* (Columbia).

834. **Gheury de Bray, M. E. J.** Spatial and time relation in dreams. *Nature*, 1926, 118, 372.—A further observation confirming a previous statement that the speed of succession of hypnopompic images varies inversely with the degree of wakefulness. Such images appear independently of volition and it is uncertain whether they can be modified through volition. Several superimposed "films" of images seem possible.—*J. E. DeCamp* (Pennsylvania State).

835. **Graber, G. H.** Carl Gustav Carus. *Ein Vorläufer der Psychoanalyse*. (C. G. Carus: a forerunner of psychoanalysis.) *Imago*, 1926, 12, 513-523.—The theories of Carus (born in Leipzig in 1789) about the unconscious, sleep and dreams, etc., are compared with Freud's.—*C. Moxon* (San Francisco).

836. **Gwinn, S.** Thousands bring their troubles to this quiet teacher. *Amer. Mag.*, 1926, 102, 16ff.—An interview with Ernest Groves concerning therapy in mild cases of psychopathy and problems of social maladjustment.—*A. L. Allport* (Dartmouth).

837. **Kenneth, J. H.** Spatial relation in a dream. *Nature*, 1926, 118, 194.—An observation confirming Gheury de Bray's hypnopompic images.—*J. E. DeCamp* (Pennsylvania State).

838. **Klüglein, H.** Über die Romane Ina Seidels. (The novels of Ina Seidel.) *Imago*, 1926, 12, 490-499.—A psychoanalytic study of the chief characters in these novels in relation to the parents.—*C. Moxon* (San Francisco).

839. **Leuba, J. H.** Recent French books on religious mysticism. *Psychol. Bull.*, 1926, 23, 723-729.—A review of a few selected French books.—*J. F. Dashiell* (North Carolina).

840. **Marbach, O.** Die Bezeichnungen für Blutsverwandte. Ein Beitrag zur Wortforschung auf psychoanalytischer Basis. (Designations for blood relatives. A contribution to the study of words on a psychoanalytic basis.) *Imago*, 1926, 12, 478-489.—Words for mother and father, son and daughter, brother and sister in various languages show the importance of psychoanalytical information and insight as a help to etymological research. For example, the evidence gained by analysis makes it clear why the ancient Indian word *dara* meant crevice, hole, wife and house.—*C. Moxon* (San Francisco).

841. **Mursell, J. L.** Contributions to the psychology of nutrition. III. Nutrition and the family. *Psychol. Rev.*, 1925, 32, 457-471.—Freud regards sexuality as the basis of family relations. Mursell, on the contrary, stresses the fundamental importance of nutrition. The present paper considers from the standpoint of nutrition the relation of the child to the mother, to the father, to brothers and sisters. At the start the child is wholly dependent upon the

mother and the child-mother and mother-child relationships center about the experiences of nursing and feeding. The well-being of the mother and that of the child are interdependent. The place of the father in the life of the child depends chiefly upon the father's relation to the mother, and this varies with the form of marriage. The child's affection for the father is an extension of affection for the mother. The relation of the child to brothers and sisters is a derivative of the relation to the mother, and not a matter of sexual jealousy. Weaning and later the eating at a common table mark a cleavage between parent and child. At these times the child asserts his independence.—*P. T. Young* (Illinois).

842. **Pierce, C. L.** *The objective and subjective development of the ego.* *Arch. Psychoanal.*, 1926, 1, 1-92.—Clark described a method, the phantasy method, of securing from narcissistic patients information regarding the primary conditions leading to the narcissism. The method is of value also in cases of dipsomania, melancholia, essential epilepsy, confirmed stammering and other neuroses and psychoses. A patient is caused to lie quietly in a state approaching a mild hypnosis, while in response to suggestions he attempts a translation of present thought and feelings into mother-infant relations; such as the comfort-discomfort of birth, nursing, weaning, baths, and the changing of diapers, clothing, etc. At first these efforts are extremely dry (of fact), but as the treatment proceeds, the patient obtains command of vocabulary, technique and power of expression and eventually exposes the fundamental constitution of the ego. The mental life of the fetus, consciousness of the infant during labor, change of the mental state at the time of birth, and the period of adaptation of the infant after birth are topics discussed. Clinical case notes under this method are given in some detail, showing the phantasia story of reproduction, birth, first feelings of existence, nursing and weaning, cradle memories, the struggle with reality and with unreality.—*A. H. Sutherland* (Scarborough School).

843. **Pierce, C. L.** *A tentative formulation of the origin of sadomasochism.* *Psychoanal. Rev.*, 1927, 14, 85-88.—In weaning, a mother wounds a child by taking from it something it wants. The child attempts to wound the mother in return. Thus the mother becomes the object of sadistic feeling, and through an oral attempt to absorb her in sucking and biting, she is to be removed so that the infant may return within the mother's body—or it may be expressed in as true a sense by saying that the child strives to take the mother's body, once a part of itself. But the child, learning it cannot annihilate the mother, next discovers it can wound the mother's love, and the child then takes the attitude previously taken by the mother in withholding something desired, thereby evoking the mother's renewed and reawakened love. There is a direct ratio between the amount of masochism manifested and the degree of love needed that remains unrequited in the neurotic's soul.—*A. H. Sutherland* (Scarborough School).

844. **Rank, O.** *Psychoanalysis as a cultural factor.* *Ment. Hygiene*, 1926, 10, 721-731.—Freud made possible a deeper understanding of what is natural and human everywhere and kept his concepts in touch with reality. This may be one of the reasons why scientists have been so opposed to psychoanalysis. Practitioners of both internal medicine and surgery have need for psychoanalysis in their work. Even today it gives us the key to an understanding of the psychical processes in the origin and progress of organic disease. It is the privilege of psychoanalysis not only to make possible a deeper understanding of religious phenomena, but at the same time to offer a substitute where religion is no longer sufficient for the mastery of individual conflicts. Similarly, in the field of ethics, psychoanalysis strives for a better mastery of the impulses which through repression produce devastating results. This reconstruction of ethics by analysis of the social guilt feeling must start with the freedom of the individual. Finally, the analytic process of obtaining knowledge is beginning to en-

able us to understand ourselves in relation to the culture we have created, and may develop a kind of psychological theory of relativity which will teach us to avoid the subjectively conditioned sources of error in our attitude toward the world.—*G. J. Rich* (Institute for Juvenile Research).

845. **Rank, O.** *Psychoanalytic problems.* *Psychoanal. Rev.*, 1927, 14, 1-19.—This paper forms part of the introduction to a book on "Genetic Psychology" soon to be published in the German. A general classification of concepts is proposed with a view to clarifying discussion, under the following headings: (a) concepts of preanalytic psychology, e.g., conscious; (b) concepts of preanalytic sexology, e.g., homosexuality; (c) concepts of analytic investigations—(1) individual psychology, e.g., repressions; (2) phylogenetic psychology, e.g., castration. To follow such a classification, Rank believes, will assist in orienting and defining such concepts as "complex," "trauma," "unconscious," "transference," "resistance," and the like. The chapter embraces an introduction to a genetic psychology which will attempt to trace the relations of the ego to its milieu—biological, psychological and social.—*A. H. Sutherland* (Scarborough School).

846. **Ravà, G.** *Costituzione, temperamento e malattie della psiche.* (Constitution, temperament and diseases of psychic life.) *Riv. di psicol.*, 1926, 22, 158-172.—The author defends his theories propounded in a previous series of articles. He distinguishes two types of temperament, instinctive and emotive. Disturbances of the former mean exaggerated activity, as exemplified in the manic-depressives; disturbances of the latter mean exalted emotivity, as exemplified in neurasthenics and psychasthenics. Dementia praecox is not treated here, as it does not fall within one or the other of the two types of disturbances. Manic-depressives are more apt to be of a broad type and to have excess of adrenaline secretions. Neurasthenics and psychasthenics, which according to the author need not be distinguished from one another, are more apt to be of a long type and to have excess of thyroid secretion.—*T. M. Abel* (Cornell).

847. **Richet, C.** *Psychical phenomena and their interpretation.* *Nature*, 1926, 118, 876-877.—There is abundant proof for other than sensory presentations, such as telepathy, lucidity, cryptaesthesia, and premonition. Ectoplasm, lights, and telekinesis need supporting evidence. For the observed phenomena the hypothesis of unknown vibrations acting on the organism seems preferable to that of souls of the dead manifesting themselves to us.—*J. E. DeCamp* (Pennsylvania State).

848. **Rizzolo, A., & Chauchard, A. & B.** *Étude quantitative de l'action de la morphine sur l'écorce cérébrale.* (A quantitative study of the action of morphine on the cerebral cortex.) *C. r. Acad. sci.*, 1926, 183, 148-150.—Morphinization of the cerebral cortex of dogs heightens its excitability, markedly lowering its reaction time. This shortened reaction time shows less variation. The intensity threshold, because of its variations, is not an adequate test of the cortical excitability.—*J. E. DeCamp* (Pennsylvania State).

849. **Róheim, G.** *Die wilde Jagd.* (The wild hunt.) *Imago*, 1926, 12, 465-477.—The wild, eternal hunt of the Aryan myths expresses the tendency to return to the mother (in the Oedipus situation) projected and therefore taking a less direct way than the Indian mythical and religious regression to Nirvana.—*C. Moxon* (San Francisco).

850. **Róheim, G.** *Social anthropology: a psychoanalytic study in anthropology and a history of Australian totemism.* New York: Boni & Liveright, 1926. Pp. 487. \$7.50.—A detailed analysis of totemic institutions and beliefs, which are "reactionary formations against the Oedipus complex." A discussion is given of the survivals of the proto-totemic complex, which involves a projection into the environment of the unconscious elements arising out of the "primi-

tive horde" situation and the symbolic representation of father-mother complexes by certain animal species. Sex-totems are taken to represent the brother, the homoerotic impulse, and the external soul or narcissistic double. The two different types of totemism, negative as found in southern and eastern Australia, and positive as found in northern, central, and western Australia, are discussed separately. The checks in the former are of the egoistical (food taboo) and libidinal (matrimonial) type. At various geographic centers and in various stages of evolution the totem is the symbol of the father, the elder brother (who takes the place of the father in the unconscious), and the external soul. The elder brother complex dominates the present relation of the aboriginal to the totem animal; the father complex is projected into a past dream epoch which is called Alcheringa. In the examination of the Alcheringa myth, parallels with dream material are found, especially in the reversal and wish fulfillment mechanisms. The absence of food and sex taboos (between which the author says there is an intimate relation) in the Alcheringa is significant, and seems to be a symbolic equivalent for primeval incest. The beliefs intended to explain child-birth are bound up with the fact that the "feelings of the father toward his father are reviewed in relation to his son," which leads to the idea that the children are the dead reborn and that ghosts go back to the totem center, i.e., the dead go back to intra-uterine conditions. The Intichiuma, one feature of the positive totemism of a part of Australia, is an "anthropic ceremony which has been transferred to the animal world." An essential part of the ceremony is the killing and eating the totem animal, who represents the father. Therefore the same wish is fulfilled in the Intichiuma ceremony as in the Alcheringa myth. The last chapter deals with the history and development of Australian totemism and analyzes further many of the beliefs discussed in previous chapters.—*M. Goodrie* (Clark).

851. **Wagner, H. L.** Sind seelische Beeinflussungen wissenschaftlich erfassbar und praktisch verwertbar? (Are psychical influences scientifically graspable and practically usable?) *Imago*, 1926, 12, 500-512.—The author does not answer these questions from a psychoanalytical viewpoint, but formulates points for analytic research.—*C. Moxon* (San Francisco).

[See also abstracts 725, 776, 817, 858, 861, 871, 872, 892, 895, 908, 942, 949, 980.]

NERVOUS AND MENTAL DISORDERS

852. **Adler, H. M.** Program for meeting psychiatric needs in the state. *Ment. Hygiene*, 1926, 10, 712-720.—Psychiatric service in a state should include service at the state institutions, permanent clinics at the more important centers, traveling clinics which visit periodically the various cities of the state, and a body of research workers concerned with problems of human behavior. At present it is not possible to follow such a plan completely because of the scarcity of trained workers. The development and present application of the plan in Illinois is outlined.—*G. J. Rich* (Institute for Juvenile Research).

853. **Barrett, T. M.** Friedreich's ataxia: clinical and post-mortem study of two cases in brothers at different stages of the disease. *Arch. Neur. & Psychiat.*, 1927, 17, 28-43.—Ataxia of both lower and upper extremities, speech defect, scoliosis, foot deformities, absent or weak knee and ankle reflexes and nystagmus are the most constant and frequent symptoms of Friedreich's ataxia. However, the ataxia may be confined to the lower extremities, and the knee reflexes may be exaggerated. The resemblance between Friedreich's ataxia and tabes dorsalis is suggested not only by the pathologic changes in the spinal cord in the two diseases, but also by the number of clinical symptoms that are common

to both. Clinical manifestations serve as a fair index of the stage of the organic changes in the central nervous system. At times, however, this correlation is absent: with reference to the two cases reported, it is a supposition that the pathologic condition of the younger patient, three years after the onset of the illness, was much the same as that of his brother at the time of the latter's death. Certainly the clinical signs were almost similar at this period. The younger boy survived four years longer, during which time the clinical symptoms made a fairly orderly advance. In the case of shorter duration, the degenerative changes in the spinal cord were limited to a certain area of the posterior columns; in the case of longer duration, spinal cord destruction was much more extensive. In neither case were the anterior columns involved; in both the degeneration of the lateral columns remained stationary.—*I. Rappoport* (Boston Psychopathic Hospital).

854. **Brook, S., & Wechsler, I. S.** Loss of the righting reflex in man: with special reference to paralysis agitans. *Arch. Neur. & Psychiat.*, 1927, 17, 11-17.—The similarity of the von Sarbo maneuver to the Romberg sign suggests that the latter also comes within the realm of the optic righting reflex. How much, then, does the fundamental optic (visuocerebral) righting reflex assist the spinothalamocerebral pathway concerned in coördination? The optic righting reflexes normally assist in the maintenance of that coördination which is based on stimuli transmitted by spinothalamocortical pathways. The exclusion of vision in the presence of that type of sensory ataxia results in the Romberg sign. The absence of the latter in purely cerebellar types of incoördination is due to the comparatively minimal influences of the optic righting reflex. Although much of this work is speculative, the authors feel that it is a justifiable attempt to correlate recent physiologic experimental work with everyday clinical neurology. More observation and investigation are necessary to give the exact anatomic and physiologic bases for the contention that the essential postural disturbance in paralysis agitans is a defect of the higher righting mechanisms. Dissolution of erectness, loss of the reaction movements, and loss of associated and automatic movements may thus be reinterpreted in the physiologic terms of the "righting reflexes" in man.—*I. Rappoport* (Boston Psychopathic Hospital).

855. **Campbell, C. M.** Two cases illustrating the combination of affective and schizophrenic symptoms. *Amer. J. Psychiat.*, 1926, 6, 243-257.—"The review of two patients presenting the combination or alternation of manic-depressive and schizophrenic modes of reaction. The constitution of the patients may have determined to a certain extent the type of their reaction, but early environment and experiences had probably influenced their stability and left their stamp on the later psychoses. A fatalistic emphasis on the congenital endowment is less useful than attention to the molding environmental factors, the study of which encourages effort in the direction of both prophylaxis and treatment." The cases described "may be used to illustrate some of the difficulties presented by actual clinical material, and to show that the formal classification of cases is apt to do scant justice to the complexity of the facts."—*B. Kendall* (Boston Psychopathic Hospital).

856. **Clark, L. P.** Public and private provision for the epileptic. *Ment. Hygiene*, 1926, 10, 787-803.—Clark reviews the history and growth of the earlier and more important institutions for the epileptic. The final objective of all institutions is the proper care and training treatment of the epileptic as an individual. The essentially anti-social nature of the epileptic constitution is an important factor which must be considered in any form of treatment.—*G. J. Rich* (Institute for Juvenile Research).

857. **Cleveland, E.** The dietary requirements of sub-normal children. *Tr. School Bull.*, 1926, 23, 272-277.—A dietitian says that food requisites for the

idiot, imbecile, and moron vary in accordance with mental levels. Idiots are like babies in their physical make-up and need food which requires little or no mastication. Milk, cooked cereals, mashed potato, green vegetables, but no meat, are on the menu for the idiot. The imbecile group should have the diet of a five or six year old normal child. The moron's diet includes milk, cereals, fruits, salads, vegetables, cheese, meat in a regulated quantity, tasty desserts, and ice cream.—*E. M. Achilles* (Columbia).

858. **Coriat, I. H.** A dynamic interpretation of Kretschmer's character types. *Amer. J. Psychiat.*, 1926, 6, 259-266.—A review of the character traits described by Kretschmer and emphasized by him in the production of psychoses, and a reinterpretation of these traits from the psychoanalytic or dynamic viewpoint. Kretschmer's classification of cycloid and schizoid shows a close similarity with the direction and flow of the libido in the psychoanalytic or dynamic sense; the personality traits and thinking processes of the schizoid are narcissistic, those of the cycloid object-libidinal. The manic-depressive is a transference psychosis, the schizophrenic, a narcissistic one.—*B. Kendall* (Boston Psychopathic Hospital).

859. **Dieterle, R. R.** Malignant hypernephroma coincident with arteriosclerosis in children. *J. Nerv. & Ment. Dis.*, 1927, 65, 42-50.—This is the detailed report of Hoag's case (*Am. J. Dis. Child.*, 1923, 25, 441-454.). The paper presents in detail the result of the post-mortem examination and of the examination of the brain. The arteries of the brain were sclerotic with hyperplasia and the cortex was softening. A large chromaffin tumor was found. The relations between the adrenal involvement and the arteriosclerosis are discussed. "The theoretical dual nature of the case reveals the abnormal functioning of the two portions of the adrenal resulting in a sexual precocity over a precocious senility." The possibility that these cases may be the missing links in the evolution of these diseases is suggested.—*O. W. Richards* (Boston Psychopathic Hospital).

860. **Fenton, N.** Shell shock and its aftermath. St. Louis: Mosby, 1926. Pp. 173. \$3.00.—This is a study, chiefly by statistical methods, of the cases of war neurosis sent to Base Hospital 117, A. E. F., during the Great War. The purpose of the study was first to ascertain the type of individual who developed a war neurosis, and secondly to describe the process and nature of the readaptation to civil life. In connection with the first problem it is concluded that "No facts stand out in sufficient prominence even to approach in themselves adequate explanations of war neurosis incidence." A number of points of interest are, however, brought out. For example, it is shown that neuropathic family history is only slightly more common in the case of war neurotics than for the army at large, and that their educational status (and therefore probably their intelligence) is somewhat higher than for the general run of enlisted men. The rehabilitation problem was attacked by studying groups of A. E. F. war neurotics in civil life in 1919-20 and again in 1924-25. This follow-up work was financed by the National Committee for Mental Hygiene. Only a few of the outstanding conclusions can be mentioned here. It is found that sixty per cent. of the cases are self-supporting one year after the war and eighty per cent. six years after. Readaptation is thus relatively slow, and there is "persistence of a tendency to react unfavorably to adverse conditions even when the symptoms of the original neurosis have been successfully dealt with." On the other hand a psychotic outcome is relatively infrequent. And "The typical war neurosis cases, with some battle features in their clinical coloring, such as concussion, anxiety, gas, are making a better readaptation as a group than some of the other types, such as neurasthenia, psychasthenia, in which symptoms often preceded any real front-line experience." There is an introduction by Dr. T. W. Salmon; and the book contains twelve figures, thirty-seven statistical tables, and an index.—*J. W. Bridges* (McGill).

861. **Ferenczi, C. S.** Freud's importance for the mental-hygiene movement. *Ment. Hygiene*, 1926, 10, 673-676.—Freud taught that the inner struggle between opposing tendencies, which in neurotic persons ends in "repression," is something that so-called normal individuals may also observe in themselves. This concept tore down the dividing wall between healthy and neurotic individuals, and between the neuroses and the psychoses. The interpretation of dreams showed that the sane and the insane could be compared, and enabled psychiatrists to understand the language of the insane.—*G. J. Rich* (Institute for Juvenile Research).

862. **Flournoy, H.** L'enseignement psychiatrique d'Adolf Meyer. (The psychiatric teachings of Adolf Meyer.) *Arch. de Psychol.*, 1926, 20, No. 78, 81-151.—Collective view of the work of Adolf Meyer, his biological and functional conception of psychology and psychiatry and his dynamic interpretation of dementia praecox. Meyer considers this psychosis to be the result of a disturbance in compensation; it is the end of a long series of badly adjusted and insufficiently compensated reactions. Flournoy shows the importance of Meyer's theory for practice in asylums or for mental hygiene. Meyer would like the psychiatric clinics to become centers of social studies. Bibliographic index of Meyer's publications.—*Ed. Claparède* (Geneva).

863. **Goddard, H. H.** Who is a moron? *Scient. Mo.*, 1927, 24, 41-46.—"Moron" is derived from the Greek equivalent for "fool." The problem of the morons is not their propagation, as their kind is needed for much of the work of the world, but training to fit them for these tasks.—*J. F. Dashiell* (North Carolina).

864. **Goldstein, K.** Über Aphasie. (On aphasia.) *Schweiz. Arch. f. Neur. u. Psychiat.*, 1926, 19, 3-39; 292-323.—Review of the present situation in the doctrine of aphasia. The author considers the classical assumption as shaken. In behalf of a new symptomatology he establishes three principal rules: (1) Changes contrary to the normal must never be viewed apart from their relation to the complete organism. Each malady changes the individual as a whole. (2) An evaluation of all manifestations is necessary, including those apparently unchanged. (3) The way by which the patient reaches a reaction has to be likewise investigated. The collective symptoms may be divided into three groups: (1) direct emanations of the actual fundamental disturbance, (2) secondary effects, (3) indirect injuries. All are symptoms (this concerns the problem of localization) of the expression of one and the same functional disturbance whatever may be their source. Their main characteristic is a "de-differentiation" of psychophysical happenings. The temporary location of the source causes this disturbance to manifest itself especially at a certain place. In a special paragraph the author judges the various symptoms of aphasia from these points of view.—*R. Meili* (Geneva).

865. **Kanner, L.** The museum of formal and verbal expressions of the insane at the Yankton State Hospital. *Amer. J. Psychiat.*, 1926, 6, 293-296.—A collection of original and sometimes fantastic products in drawing, painting, modeling, writing, etc., the work of patients who cannot adapt themselves to following the prescribed models in the occupational classes. The chance to display their "formal and verbal expressions" in the "Museum" interests and stimulates the patients, pleases their relatives, and gives their physicians additional data for studying their mental condition.—*B. Kendall* (Boston Psychopathic Hospital).

866. **Kirby, G. H., & Bunker, H. A.** Types of therapeutic response observed in the malarial treatment of general paralysis. *Amer. J. Psychiat.*, 1926, 6, 205-226.—A review of 93 cases of general paralysis given malarial treatment; in 13 the treatment was apparently without effect; in 15 the results were of tempo-

rary character; and in 65 the therapeutic influence persisted. The better the results obtained, the more likely they were to be permanent. Of 41 patients who received no further anti-syphilitic treatment, in 32% of the cases a well-marked modification took place in the strength of the spinal fluid Wassermann, in 26% it was modified, and in 42% it remained unchanged. Patients of the "manic" type of general paralysis showed the greatest tendency to a favorable response. Duration of symptoms was 27 months for the unimproved cases and 16 months for those who had full remissions. The proportion of patients who lost weight after treatment was greater among those who did not respond to treatment or who improved only temporarily.—*B. Kendall* (Boston Psychopathic Hospital).

867. **Lyday, J. F.** *The Greene County mental clinic.* *Ment. Hygiene*, 1926, 10, 759-786.—A psychiatric clinic from the Iowa State Psychopathic Hospital was sent into Greene County to work for two weeks in connection with the local social agencies. The experiment indicated both the need and the feasibility of extending the out-patient service of the psychopathic hospital into the semi-rural districts of the state. The types of cases dealt with are analyzed in some detail.—*G. J. Rich* (Institute for Juvenile Research).

868. **McCready, E. B.** *Defects in the zone of language (word-deafness and word-blindness) and their influence in education and behavior.* *Amer. J. Psychiat.*, 1926, 6, 267-277.—A review of some of the contributions to the subject of aphasic conditions in children. The early cases were motor and auditory in character; Broadbent in 1872 reported what was apparently the first instance of word-blindness to be observed in children. The work of Wallin and of Orton is cited. Cases where the acquisition of speech is delayed are also considered. Aphasic conditions, especially word-blindness, lead to retardation in school and are frequent sources of behavior difficulties. Recognition and even partial correction of the defect will lead to better educational progress and better social adjustment.—*B. Kendall* (Boston Psychopathic Hospital).

869. **McKendree, C. A., & Feinier, L.** *Somnolence: its occurrence and significance in cerebral neoplasms.* *Arch. Neur. & Psychiat.*, 1927, 17, 44-56.—Somnolence may occur in cerebral neoplasms regardless of the anatomic region involved. It may occur before any definite signs of increased intracranial pressure manifest themselves. It may occur without demonstrable gross changes in the ventricles. It may occur without apparent gross hyperplasia of the region involved and without ventricular distention. In this series somnolence was most constantly found in cases exhibiting marked internal hydrocephalus. On the other hand, the degree was often slight compared with other instances in which there was slight or no distention of the ventricles. The majority of the cases showed indubitable signs of increased intracranial pressure, and it is the belief of the authors that this factor, with or without ventricular distention, operates directly or indirectly in slowing cerebral circulation, diminishing conscious receptivity of environmental stimuli, and producing somnolence.—*I. Rappoport* (Boston Psychopathic Hospital).

870. **Minogue, B. M.** *The constancy of the I. Q. of mental defectives.* *Ment. Hygiene*, 1926, 10, 751-758.—Of 441 feeble-minded individuals of the imbecile and moron levels tested at Letchworth Village, 72% showed no real change in I. Q. on reëxamination, and 91% showed a variation of not more than 10 points. The variation, when present, tended to be a loss rather than a gain, and bore no relation to the etiology of the defect. Variation was most frequent in children under 12 years and least frequent in adults over 21 years of age.—*G. J. Rich* (Institute for Juvenile Research).

871. **Pierce, C. L., & Uniker, T. E.** *A psychological study of the nature of the idiot.* *Arch. Psychoanal.*, 1926, 1, 93-137.—Idiocy is defined as the total gross defect of mental development, including imbecility. It is held that the

idiot develops an unknown amount of intelligence after a pattern, sometimes exceedingly intricate, and on a plane with the dog or ape. An idiot has a pathoneurosis of the egoistic or narcissistic type at the infantile level. The libido divides or directs itself toward the erogenous zones or else toward preservation of the person. A case (Jimmy, aged 12) in whom progress under treatment is described, is regarded as an earnest of the possibilities.—*A. H. Sutherland* (Scarborough School).

872. **Pierce, C. L., Uniker, T. E., & Ireland, H. M.** A preliminary study of the conduct disorders of lethargic encephalitis. *Arch. Psychoanal.*, 1926, 1, 138-173.—A text, published in *Med. J. & Rec.*, May 5, 1926, is here amplified. It proposes "a plan of analytic treatment to cover the most incorrigible and intangible types of cases from which all grades and kinds of conduct disorders shade out into those of more or less pure transference types." The conduct disorders of postencephalitis lethargica constitute an ego (narcissistic) neurosis which may be studied objectively.—*A. H. Sutherland* (Scarborough School).

873. **Pollock, H. M.** Feeble-minded in institutions in the United States. *Ment. Hygiene*, 1926, 10, 804-810.—A census of institutions caring for the feeble-minded shows that institutional care of this class is rapidly increasing in every part of the United States. The high rates among negroes in the two states in which negroes are admitted without discrimination seem to indicate a greater prevalence among negroes than among whites. Males discharged from institutions have a shorter institution life than do the discharged females, which is in accordance with the belief that the female patient needs the protection of the institution to a greater degree than the male.—*G. J. Rich* (Institute for Juvenile Research).

874. **Smith, H., & Fairweather, A.** The case of Richard Loeb and Nathan Leopold. *J. Ment. Sci.*, 1925, 71, 80-92.—The authors have made a summary of the case, including the story of the crime, an account of the trial and the reports of the many alienists was examined the two lads. The studies made by the various psychiatrists are given in great detail with practically no comment. There are, however, interesting points of differences demonstrated between the American and English procedure in criminal law. In conclusion the writers express the viewpoint that the two offenders cannot be regarded as other than abnormal, and that in the interests of science it is fortunate that these two lads are not to be executed, since there will be opportunity for further study of their cases.—*E. F. Symmes* (Boston Psychopathic Hospital).

875. **van de Wall, W.** A systematic music program for mental hospitals. *Amer. J. Psychiat.*, 1926, 6, 279-291.—An outline of a plan for a wide use of music in mental hospitals as one form of psychotherapy with the purpose of activating the patients' physical and mental powers.—*B. Kendall* (Boston Psychopathic Hospital).

876. **Van Wagenen, W. P.** Tuberculoma of the brain: its incidence among intracranial tumors and its surgical aspects. *Arch. Neur. & Psychiat.*, 1927, 17, 57-92.—Among a series of 1,000 verified tumors recorded up to Oct. 15, 1925, only fourteen, or 1.4 per cent., have been proved to be tuberculous granulomas, whereas around 50 per cent. represents the estimates of the earlier writers on the subject. All but three of the seventeen tuberculomas listed in the surgical records of the Peter Bent Brigham Hospital have occurred in the cerebellum. The lesions as proved at necropsy have been single in the great majority of cases. They were found in patients over 18 in ten instances; in seven instances in patients under 18. In six instances the lesion was surgically extirpated, five times from the cerebellum with death from recurrence of symptoms, usually with a terminal meningitis within three months. Only one patient survived more than a year without local recurrence, this having been an adult with a cerebral tu-

bercle, who subsequently died from the effects of an operation for peritoneal tuberculosis. In the other eleven cases palliative measures alone were carried out, and only one of the patients, a child with a subtentorial lesion which was not removed, remains alive and well now, six years later. Regarded from a conservative point of view, it would appear that the operations have been chiefly valuable as palliative procedures.—*I. Rappoport* (Boston Psychopathic Hospital).

877. **Vincent, G. E.** *The medical profession from an international point of view.* *Amer. J. Psychiat.*, 1926, **6**, 297-304.—A discussion of three types of medical education: the British, which is based on training the all-round practitioner by giving him thorough training in the hospital, "walking the wards"; the Latin, as in the Medical School of the University of Paris, in which the main emphasis is on the clinic; the Teutonic, which emphasizes research, and in which to a large extent the clinic is isolated. The American system combines these three types, with good results, but its weakness is that it does not encourage quality in the student, nor until very recently has preventive medicine been given its due place. General practitioners would broaden their sympathies and understanding of their patients by specializing for a short period in the field of psychiatry.—*B. Kendall* (Boston Psychopathic Hospital).

878. **Wertheimer, F. I., & Hesketh, F. E.** *The significance of the physical constitution in mental disease.* Baltimore: Williams & Wilkins, 1926. Pp. xiii + 87. \$2.50.—Body structure, classified according to Kretschmer's types, more often than not corresponds to the type of psychosis developed—either dementia praecox or manic-depressive insanity. When age differences are eliminated, the relation is closer. This study is based on 65 patients. A new index of physique is advanced, the measurements being taken only at skeletal points. The relation of pre-psychotic personality to physique also indicates a correlation. The terms "idiotropic" and "syntropic" are suggested as improvements on "schizoid" and "cycloid." In a historical discussion, the study of morphological correlations is traced from Galen down to the present. Plates have been included to illustrate the physical types.—*D. L. Bidwell* (Illinois).

879. **Wertheimer, F. I., & Hesketh, F. E.** *A minimum scheme for the study of the morphologic constitution in psychiatry: with remarks on anthropometric technic.* *Arch. Neur. & Psychiat.*, 1927, **17**, 93-98.—The guiding principle of the scheme is the recording of data of the morphologic habitus *in toto*, not of isolated details which are unrelated among themselves. This scheme can be used in a relatively short time and in the wards of a hospital. Its use on a large number of patients will supply data which would be valuable at the present stage of the investigation of the constitution problem in psychiatry.—*I. Rappoport* (Boston Psychopathic Hospital).

880. **Yudelson, A. B.** *Facial diplegia in multiple neuritis.* *J. Nerv. & Ment. Dis.*, 1927, **65**, 31-41.—A brief summary of previous cases of the uncommon association of facial diplegia with multiple neuritis is given. The author's case is one of infectious polyneuritis in a white woman 45 years old. She was unable to walk on account of pains in her legs. Her personal and family histories were unimportant. When first seen in the hospital she showed complete bilateral paralysis. Smell, hearing, taste, and vision (with glasses) were normal. Her arm movements were quick and accurate, though coördination with both arms was faulty. All movements in the lower extremities were slow and weak. Subsequently she showed gradual improvement. The author concludes that facial diplegia is a usual finding at some stage of this type of polyneuritis, and that infectious neuritis is not to be classed with peripheral neuritis without neuritic involvement. Good bibliography.—*O. W. Richards* (Boston Psychopathic Hospital).

[See also abstracts 789, 883, 885, 908.]

SOCIAL FUNCTIONS OF THE INDIVIDUAL

881. **Barton, G. A.** *The present status of the Hittite problem.* *Proc. Amer. Phil. Soc.*, 1926, **65**, 232-243.—A linguistic discussion of the nature of the Hittite language. In Hittite we possess our earliest dated Indo-European material. It had previously been supposed that the further back we went in time the more closely we should find the Indo-European languages resembling each other, but the phenomena presented by Hittite upset all our theories.—*A. P. Weiss* (Ohio State).

882. **Bureau Internationale d'Education.** *Enquête sur le patriotisme.* (Questionnaire on patriotism.) *Arch. de Psychol.*, 1926, **20**, No. 78, 167-170.—The International Bureau of Education (B. I. E.) of Geneva publishes a questionnaire of thirty-five questions on the causes of the patriotic sentiment. This questionnaire will be sent free to all who wish to send in answers.—*Ed. Claparède* (Geneva).

883. **De Greeff, Et.** *Le temps d'adaptation du débile mentale à un milieu nouveau. Sa mesure, sa signification.* (The period of adjustment of a defective child to a new environment. Its measurement, its significance.) *J. Neur. et Psychiat.*, 1926, **26**, 476-488.—The placement in foster homes of children, especially of those children who are subnormal, tends to increase in spite of certain disadvantages. The author has made a careful study of the problem to determine primarily the length of time required by the child to adapt himself to his new surroundings and also to discover whether the period is the same for all children. The measurement of this period of adaptation may appear to be a simple matter. The child is said to be adjusted to the new home as soon as he regards his foster parents as his real father and mother. This moment, however, is very difficult to determine. It is the usual custom for the visitor to ask the child by what name he designates his foster parents, whether he calls them father and mother or Monsieur and Madame. Most foster parents, however, insist that the child call them father and mother, thus the names have little significance. Furthermore, the observer may visit the family very frequently and yet be unable to determine whether the child has become adapted to his environment. In the presence of these difficulties the author has decided to approach the problem indirectly by a method that is purely experimental. We know that a normal child until the age of eight or even twelve years believes that his father is superior to all other men. De Greeff holds, therefore, that the child is adapted to his new environment the moment when he considers his foster father superior to all others. Sixty subnormal children were chosen for the experiment, their chronological ages ranging from twelve to twenty years, their mental ages from six to twelve years. Each child was examined separately. He was asked to name a neighbor to the right of his home and also one to the left. The examiner then took a sheet of paper and in the center made a large dot. It was explained to the child that this dot represented his foster father. Similar dots were placed to the right and to the left to represent the two neighbors. The child was given a pencil and asked to draw a line under each dot, placing the longest line under the dot representing the cleverest of the three men. The paper was removed and the child was asked to repeat from memory what he had drawn. The paper was then returned and the child was told to explain his drawing. The experiment was repeated and this time the dots represented the foster father, the judge and the examiner. The author has presented his results in graphic form. As a result of this study Dr. De Greeff reaches the following conclusions: A certain number of defective children cannot adapt themselves to foster homes and should, therefore, be placed in institutions. Rapid adjustment is an unfavorable sign. One cannot judge definitely of the influence of family life until the child has re-

mained at least one year in the same foster home. The family needs a year in which to assimilate an adaptable child. This rule authorizes one to use pressure to keep in a foster home a child who during the year appears to be maladjusted. One has seen a certain number of these children adapt themselves to families when they have been permitted to remain more than a year. A sojourn of four or five months in a new family has fifty chances out of a hundred of being agreeable to the child and consequently cannot be taken in the light of a punishment. The choice of seasons is a matter to be considered. Winter is favorable to the adjustment of a child to his foster home.—*K. Brousseau* (Mills).

884. **Drever, J.** *Psychological aspects of our penal system.* *Nature*, 1926, 118, 446-449.—In anger we have the primitive psychological source of punishment. Though obscured, anger long remained the driving force of punishment as it passed through the vindictive, retributive, protective or deterrent stages to the reformatory or curative stage. Important psychological problems arise when the protective and reformatory aspects are emphasized. A thorough understanding of the individual and the effect of punishment (treatment) upon the individual and upon society is necessary. Reformation is a means of protecting society. A clinical examination should be made before passing sentence. No means of diagnosing incipient criminality is available.—*J. E. DeCamp* (Pennsylvania State).

885. **Flinn, H., & Jacoby, A. L.** *One hundred domestic-relations problems.* *Ment. Hygiene*, 1926, 10, 732-742.—In every pair of married persons who come into the criminal court with domestic-relations problems there is some psychopathic deviation. Alcoholism is frequent among the men, inferiority and feeble-mindedness among the wives. An inferior wife is an extremely frequent selection of the alcoholic male. Every case of domestic trouble that presents itself at court warrants as full and complete an investigation of the wife as of the husband. When this is done, the problem is shown to be one of extreme complexity, requiring long and careful therapy and not to be settled by the administration of a fine or a short term of imprisonment.—*G. J. Rich* (Institute for Juvenile Research).

886. **Graham, V. T.** *Health studies of negro children. I. Intelligence studies of negro children in Atlanta, Georgia.* *Pub. Health Rep.*, 1926, 2757-2783. Reprint No. 1127, 1927.—A report of the mental and physical status of children in the negro public schools of Atlanta. The tests used were: group (Otis), individual (Stanford-Binet), and performance tests (Kohs block design, Lincoln hollow square, and Healy construction A). A discussion is given of each kind of test used, its probable degree of reliability for the particular study, and the results obtained. A comparison is made with white children, the comparison being based upon norms secured from large numbers of white children in various parts of the country. The results obtained are, briefly: the negro children, except at the lower ages, made lower scores than the whites, the discrepancy increasing with age; the white children showed a greater variability of performance; the negro children did better at rote and practical tasks than otherwise. Eleven tables and an appendix are included in the report.—*M. Goodrie* (Clark).

887. **Hamblly, W. D.** *Origins of education among primitive peoples.* London: Macmillan, 1926. Pp. xx + 432.—An attempt at a "historical and regional survey of the customs of primitive races with special reference to moral, religious, physical and social education in so far as it has been developed without the intrusion of European influence." An outline is given of the progress of the primitive child from the pre-natal stage through childhood, which ends in some groups when the child is as young as five years and in others as old as fourteen years. In the study of the education which the group considers necessary before, during, and after initiation into tribal life, both general education and the

education necessary for specialization of function are discussed. The training and qualifications necessary for medicine men are dwelt on at some length. The hypothesis is offered that medicine men, who are first singled out because of morbid or neurotic tendencies, become in the course of their training victims of fear neuroses. Neurotic symptoms are aggravated by the strenuous system of taboos which is imposed upon the initiated. A close similarity is noted between the initiation of the medicine man and the ordinary initiation of a boy or girl into tribal life. The similarities of ideals and practices in education are widespread among primitive people: it is postulated that these had a center of origin. Standards of conduct are learned by primitive children indirectly, and mainly on the subconscious level, through taboos, observation, folk lore, and play. As for the educative play of primitive children, it is seen to conform closely to the ideals of Froebel and Pestalozzi and the newer education of to-day. In general the education of primitive man tends to fit him for life in the particular environment in which he finds himself, because of which fact modern educators might advantageously study primitive races.—*M. Goodrie* (Clark).

888. **Hard, W.** *The urge toward empire.* *The Nation*, 1927, 124, 109.—American diplomats are "imperialistic" because of a psychological makeup, common to most Americans, which demands that they be imperialistic. The chief features observable in the psychology of our imperialistic diplomats are: a "consciousness of difference" from all non-Americans; a feeling of superiority over those different; and an emphasis upon duty, because of power, to "uplift" the "degraded."—*M. Goodrie* (Clark).

889. **Hrdlicka, A.** *The peopling of the earth.* *Proc. Amer. Phil. Soc.*, 1926, 65, 150-156.—An anthropological discussion of man's origin and distribution, after a trip by the author through the Mediterranean and the Red Sea to India, Ceylon, Java, Australia and South Africa. Man's origin was probably in western and southwestern Europe. The Neanderthal man was probably the original form and the progenitor of *Homo sapiens*. Man first spread into Palestine and as far as northern Rhodesia. The original old races were probably yellow-brown, negroid, and the "whites." The yellow-brown peopled central, eastern and northern Asia; the negroes probably developed in the heart of Africa. Other topics discussed are: the enigmatic distribution of the Negrito type; the relation between the Australians and Tasmanians; the origin of the American Indian types.—*A. P. Weiss* (Ohio State).

890. **Hrdlicka, A.** *The people of the main American cultures.* *Proc. Amer. Phil. Soc.*, 1926, 65, 157-160.—An anthropological discussion of the progenitors of the American Indian. The builders and bearers of the principal pre-Columbian American cultures were not all of one type of Indians. The Indian population developed, doubtless, not from a single pair, not from a single immigration, but from repeated small comings or dribblings over of eastern and northern Asiatic tribes which, though evidently all parts of the older yellow-brown race, differed already in type, language, and other particulars. So far as physical anthropology goes, there has never been found a reliable trace of any other pre-Columbian population than the Indian.—*A. P. Weiss* (Ohio State).

891. **Leuba, James H.** *The psychology of religion as seen by representatives of the Christian religion.* *Psychol. Bull.*, 1926, 23, 714-722.—A review of a few selected English books.—*J. F. Dashiell* (North Carolina).

892. **Lindsey, B. B.** *The moral revolt.* *Red Book*, 1926, 48, 2, 37ff.—A discussion of the marriage code in America and the rôle of jealousy in marriage.—*A. L. Allport* (Dartmouth).

893. **Lipmann, O.** *Schuld und Strafwürdigkeit.* (Guilt and punishableness.) *Monatssch. f. Krimpsychol. u. Strafrechtsref.*, 1925, 16, 284-287.—There are cases in which, in spite of demonstrated guilt, a punishment is not justified

either as a retribution or as a preventive measure. In such cases the court should first of all certainly establish the guilt of the perpetrator, but nevertheless it should be able to acquit the guilty person "under consideration of the motives which led him to commit the deed, and under consideration of his personality."—*O. Lipmann* (Berlin).

894. **Lyon, S. P.** *A Moro fundamentalist.* *Asia*, 1927, 27, 112.—An account of the instruction given the writer by Pandita Oudin, a Mohammedan priest of Mindanao. His discourse shows an "attitude of superiority he could not conceal, his honest amazement at my ignorance and his complete self-satisfaction with, and confidence in, his own knowledge." Possibly valuable as psychological data on fundamentalism.—*M. Goodrie* (Clark).

895. **Malinowski, B.** *Prenuptial intercourse between the sexes in the Trobriand Islands, N. W. Melanesia.* *Psychoanal. Rev.*, 1927, 14, 20-36.—This sociological study describes practices as indicated by the title. Preadolescents play in the bushes, adolescents have the use of a "bachelor's house" (though brush, grove, or yam house is often preferred for temporary convenience), while maturity and the assumption of tribal responsibilities tend to stabilize sex relations into more or less permanent association. Promiscuity prevails at all ages and marriage means merely a less degree of dalliance than usual. This article is a chapter from a pending publication on "The Sexual Life of the Savages of N. W. Melanesia."—*A. H. Sutherland* (Scarborough School).

896. **Mead, C. W.** *The prehistoric Peruvians.* *Proc. Amer. Phil. Soc.*, 1926, 65, 141-149.—An anthropological account of the people who flourished before the rise of the Inca Empire and of the Incas themselves. The article includes descriptions of some of the customs, forms of government, development in art, dwellings, form of clothing, list of the foods used, hunting implements, some mining, the discovery of making bronze, use of ceremonials in planting and every important act, festivals, and some surgery and medicine.—*A. P. Weiss* (Ohio State).

897. **Mercer, F. M.** *Color preferences of one thousand and six negroes.* *J. Comp. Psychol.*, 1925, 5, 109-146.—The choices of all shades of negroes in grades from the first through the eleventh in a public school in Texas of the colors violet, red, orange, blue, green, and yellow, were treated in two statistical fashions, absolute frequency and order of rank, with the result that for the 106 negroes the colors in order of greatest preference to less are blue, orange, green, violet, red, yellow, and white. Education is shown to have altered all preferences except that for blue, and only slight differences exist as between the sexes. The rankings of the negroes differ greatly from those by whites except in the matter of blue, and the whites are more discriminative of color differences than are the negroes.—*H. B. Crosland* (Oregon).

898. **Merz, C.** *The big news of 1926.* *New Republic*, 1927, 49, 213-215.—A list of the ten "big" newspaper stories of the year with an opinion by six representative editors as to what makes a "big" story. Four factors are listed: crime, sex, novelty, and conflict, the most important factor being conflict.—*A. L. Allport* (Dartmouth).

899. **Naville, A.** *La contradiction et l'esprit humain.* (Contradiction and the human mind.) *Arch. de Psychol.*, 1926, 20, No. 78, 152-155.—Criticism of the theory of primitive mentality of Lévy-Bruhl. Even the examples given by Lévy-Bruhl do not prove at all that the savage is indifferent to contradiction. One ought not to confuse ignorance and contradiction.—*Ed. Claparède* (Geneva).

900. **Schaub, E. L.** *The psychology of religion.* *Psychol. Bull.*, 1926, 23, 681-700.—A review of literature in some aspects of the field.—*J. F. Dashiell* (North Carolina).

901. **Schroeder, T.** "Manufacturing 'The experience of God.'" *Psycho-*

anal. Rev., 1927, 14, 71-84.—From excerpts from "an anonymous book" of a "highly cultured clergyman of an orthodox church," the author attempts a theory to explain how such a clergyman can hold modern scientific concepts, admit that the God-idea is a mental product, yet also remain firm in his religious faith—without being a hypocrite. The clergyman has given a description of "the psychologic quintessence of religiosity" which is an ecstatic experience—a magic thrill. This experience, rationalized, attaches to a symbol which provides the reinstatement of the experience. No theology and no theory of religious experience need be regarded as permanent—the felt need is always present to the truly religious. And this mystical experience can be explained only by psycho-analytic methods, which reinstate the thrill in the devotee's consciousness.—A. H. Sutherland (Scarborough School).

[See also abstracts 732, 824, 831, 838, 840, 841, 844, 849, 850, 863, 867, 874, 939, 945, 966, 976, 980.]

INDUSTRIAL AND PERSONNEL PROBLEMS

902. Bingham, W. V., & Freyd, M. *Procedures in employment psychology*. Chicago & New York: Shaw, 1926. Pp. xi + 269.—While this book deals particularly with the scientific methods which may be used in vocational selection, it also has bearings on vocational guidance. It is intended for use both in industrial research and in college courses in vocational psychology. The book carefully outlines a procedure for developing, evaluating, and installing measurement methods in vocational selection; it explains how to construct vocational tests, rating scales, and interest questionnaires, and how to determine the reliability and validity of tests. The technique here set forth is based on the experience of many specialists in vocational research, as well as on the authors' experience. In the first chapters of the book are outlined the steps involved in carrying out research in employment problems: choice of occupation to be studied, careful job analysis, selection of criteria of success that are to be used for gauging a worker's relative success or failure in the occupation, choice of workers to be studied, analysis of the individual worker's general and specific abilities, selection and construction of objective tests of abilities that are considered essential to success in the occupation, and the construction of scales for rating tests and of questionnaires for obtaining the employee's personal history record. The latter part of the book deals with the technique of administering the tests, the validity of the results obtained, and the statistical treatment of the results. While a working knowledge of statistical methods is presupposed, the steps in the statistical treatment of the results are carefully set forth, and references to authors on statistics are given for further information and guidance. The authors have included a good bibliography, and several statistical tables to facilitate treatment of results.—A. Peterson (Clark).

903. Board, S. S. *College men aided in industrial adjustment*. *Indus. Psychol.*, 1926, 1, 767-770.—A description of the graduate placement bureau as it has been developed for the placement of graduates of Yale University.—A. T. Poffenberger (Columbia).

904. Brandon, R. H. *Guiding Mooseheart students*. *Indus. Psychol.*, 1926, 1, 788-891.—An interesting account of the vocational training and guidance of students in the Schools of the Royal Order of Moose.—A. T. Poffenberger (Columbia).

905. Burt, C. *Guidance advances in Great Britain*. *Indus. Psychol.*, 1926, 1, 792-800.—A brief historical survey of the development of vocational guidance activities in Great Britain, showing especially the important part played by gov-

ernment agencies. Burt also describes an intensive experiment in the guidance of school children. The essential feature of the guidance employed is a three-fold classification of the mental factors involved in all activities. First, there is a central or general factor, known as intelligence; second, more limited factors, such as verbal and manual capacity; and third, factors that are quite specific and peculiar to particular operations. Occupations are classed according to the degree to which they require these three factors. By passing from the general to the particular traits, a process of progressive delimitation of available occupations soon leaves only a few for final choice.—A. T. Poffenberger (Columbia).

906. Clark, E. B. Value of student interviews. *J. Person. Res.*, 1926, 5, 204-207.—Describes two investigations concerning the value of data obtained at Northwestern University through student interviews. Two important methods of validating such data are: (1) to compare material on same topic obtained by several interviewers, and (2) to compare interviewer's data with objective facts. Both of these methods were applied to college personnel work by the writer. The materials used in the first study were the reports made by students on how they distributed their time. They were interviewed by two persons. The comparison of averages shows that there are real differences in the data obtained by two interviewers from unselected groups of students in one class. The following reasons are suggested as explanations for these differences: (1) the two interviewers did not have in mind exactly the same definitions of the items; (2) the practically unavoidable suggestions which interviewers gave the students; and (3) unwillingness of a few students to state sincerely what they thought they were doing. In the second study two interviewers, using all facts available, predicted the probable scholastic average of each individual. Each interviewer's estimate was then compared with the actual point averages received on a semester's work. In one case the correlation was 0.66 and in the other it was 0.73. While the estimates were generally somewhat higher than the grades received, they were not higher through the entire range of point averages. Conclusions: There is real likelihood that differences in data may be due to interviewers. Interviewers can be considerably in error in judging factors for which tangible data are available. Interviewers show a fear of making an extremely high, or extremely even, or even a fairly low estimate.—L. H. Greene (Columbia).

907. Crockett, A. C. Testing apprentices for the Burroughs Adding Machine Company. *J. Person. Res.*, 1926, 5, 259-266.—This study was suggested by the Placement Division of the Detroit Public Schools as a possible means of improving the selection of apprentices for the tool- and die-making department of the Burroughs Adding Machine Company. The plan was to test 27 members of the Burroughs Apprentice School and set a tentative standard for new applicants. The results of this test were then compared with results of a previous test given to an unselected group. The following tests were used: tapping; card-sorting; following directions; rote memory; form board; Stenquist mechanical ingenuity (form A); match board for motor control; hand measurements in millimeters. The average reliability coefficient of tests was 0.73 ± 0.04 . Three of the tests differentiated clearly between the apprentices and boys of the unselected group of approximately the same age; though they failed to point out the best and the poorest apprentices.—L. H. Greene (Columbia).

908. Feutinger, J. The mental factor in the economic adjustment of 500 disabled ex-service men. *Ment. Hygiene*, 1926, 10, 677-700.—Even those men with predominant physical handicaps who had never undergone psychiatric examination and treatment were suffering much less from a physical disability to adjust to a job than from a mental inability to adjust to their handicap. There was apparently no one factor that appeared constantly in the problem

of a man's maladjustment. Quite frequently, however, there was a loss of self-reliance and an apparently concomitant loss of sense of responsibility. These, more than anything else, determined the acuteness of the man's economic problem. They seemed to have much less relation to the man's neuropsychiatric condition than the way in which this condition had been handled.—*G. J. Rich* (Institute for Juvenile Research).

909. **Griffenhagen, —, & associates.** The policies and procedure involved in developing a compensation plan for the Massachusetts state service. *Pub. Person. Stud.*, 1926, 4, 326-335.—Excerpts from a more complete report to the Massachusetts Commission on Administration and Finance outline the need for a compensation plan in that state. The theory and practice in evaluating personal services are discussed from economic and sociological viewpoints, followed by suggestions as to a general compensation policy. A proposed plan is described together with the method of its development. A balanced financial effect is predicted to follow adoption of the plan.—*K. M. Cowdery* (Stanford).

910. **Griffenhagen, —, & associates.** The classification plan for the Massachusetts state service. *Pub. Person. Stud.*, 1927, 5, 11-18.—The nature and purposes of a classification of positions are presented, with emphasis placed upon the interdependence of such a plan and a compensation program. The essential feature of the plan is that the classification of a position is based upon the duties, responsibilities and qualifications necessary rather than upon the nature of the individuals holding the position at the time the plan is made. Facilitation of all personnel processes is an objective of the plan, with special opportunity for promotion by merit.—*K. M. Cowdery* (Stanford).

911. **Hannum, J. E.** To find what poor eyes cost your firm. *Indus. Psychol.*, 1927, 2, 70-74.—A description of the recommendations and procedure outlined by the Eyesight Conservation Council for making a test to determine the effect of visual correction upon production.—*A. T. Poffenberger* (Columbia).

912. **Hepner, H. W.** A business ability test. *Indus. Psychol.*, 1927, 2, 17-27.—A business ability test in seven sections is reproduced, together with results of its application to 91 people of a wide range of ability, salary, age, etc. Correlations between test scores and other criteria of ability are high, as would be expected from the character of the groups, which ranged from janitors to "executives holding positions of responsibility."—*A. T. Poffenberger* (Columbia).

913. **J., L. W.** Industrial psychology. *Nature*, 1926, 118, 462.—A brief review of papers presented by Bartlett, Stephenson, Angles, Spielman, and Farmer before Section J (Psychology) at the Oxford meeting of the British Association.—*J. E. DeCamp* (Pennsylvania State).

914. **Johnson, T. R.** Reducing deliverymen's mistakes. *Indus. Psychol.*, 1927, 2, 8-11.—An analysis of deliverymen's work shows that it calls for an intelligence that is normal or above, while a test of deliverymen shows that they average below normal. A group intelligence test was administered to 31 men, who had been rated by their employers. Relationship between test scores and success is reported to be close enough to furnish a minimum and maximum critical score.—*A. T. Poffenberger* (Columbia).

915. **Keller, F. J.** Guidance in vocational training. *Indus. Psychol.*, 1926, 1, 781-787.—A report of a questionnaire study of the vocational guidance activities in vocational schools. The replies to each of the ten questions from a sampling of institutions are given in condensed form.—*A. T. Poffenberger* (Columbia).

916. **Kitson, H. D.** The psychology of vocational adjustment. Philadelphia: Lippincott, 1925. Pp. viii + 273. \$3.00.—The chief purposes of this book as set forth by the author are: (1) to point out the psychological problems involved in choosing a vocation and becoming proficient therein; (2) to describe

the attempts that have been made toward the solution of these problems; and (3) to suggest and illustrate scientific methods that may be employed in the exploration of the vast field that remains to be covered. There are many groups of people interested in these problems. Business executives, particularly production managers, realize that the essential factor of effective business management is the adjustment of the worker to his work. Social workers, economists, educators, moralists, and psychologists all feel the need for recognition of the psychological phase of vocational adjustment. Vocational adjustment usually involves an analysis of the vocation and an analysis of the individual. Analysis of vocation is a process of dissecting a vocation and describing its component elements. From a psychological point of view a vocation has no existence apart from the worker in it; psychologically it is the worker at work. Vocational maladjustment is one of the most outstanding causes of unrest, and is characterized by lack of interest and vocational change, the latter being found to a great degree among the uneducated. The following topics relevant thereto are suggested in this book: education of the workers, vocational analysis, measurement of intelligence, analytic aptitude tests, interest, incentives, concrete investigation, psychological factors such as emotion and will, keeping of records and rating of the workers. The last two factors mentioned are distinctly beneficial to business establishments, especially in deciding on promotions. In conclusion, the fact is brought out that vocational adjustment is more than a local problem, more than a national problem; indeed, it is international in scope. Wherever human beings are working, there is recognized the necessity for systematically assisting them to adjust themselves to their work. The methods of making these adjustments have been mentioned, and although they are still in an unfinished state, they have brought aid to those groping their way through the fog of maladjustment, and there is reason to believe that as they develop they will become increasingly beneficial to humanity.—*K. E. Corbett* (Clark).

917. **Kitson, H. D.** *Training leaders for guidance.* *Indus. Psychol.*, 1926, 1, 759-761.—A brief statement of the status of the vocational counsellor in the United States, the kind of training that a counsellor needs and the institutions which offer a part or all of such training.—*A. T. Poffenberger* (Columbia).

918. **Kornhauser, A. W.** *What are rating scales good for?* *J. Person. Res.*, 1926, 5, 189-193.—A critical examination of the technique of rating scales, and an enumeration of their advantages.—*H. D. Kitson* (Columbia).

919. **Lott, M.** *Guidance aids industrial adjustment.* *Indus. Psychol.*, 1926, 1, 749-752.—A series of case studies demonstrating the importance of continual guidance of the worker after he is employed, so that each individual may become satisfactorily adjusted within the organization, thus reducing turnover.—*A. T. Poffenberger* (Columbia).

920. **Messick, C. P.** *The personnel agency as an integral part of public administration.* *Pub. Person. Stud.*, 1927, 5, 2-10.—Due to the soundness of the merit principle in personnel administration and to the broadening conception of its place in public government, the personnel agency is becoming more than a mere center for the proper testing of applicants for entrance into and promotion in the service. The functions of classification of positions by duties, balancing compensation according to duties and required qualifications, selection and promotion of employees by approved scientific methods, regulation of activities affecting morale, supervision of separation procedure, and miscellaneous investigations dealing largely with improvement of governmental administration, are listed as essential to an efficient personnel agency which can properly become an important and integral part of the public administration. Such activities emphasize the positive rather than the negative phases too often characteristic of civil service procedure.—*K. M. Cowdery* (Stanford).

921. **Proctor, W. M.** *The public schools in vocational adjustment.* *Indus.*

Psychol., 1926, 1, 776-780.—Various devices in use in the public school system for vocational guidance are reviewed, among them being talks by business men, imparting of useful information to specially organized groups of students, trips to industrial plants, try-out shops, after-school and vacation employment, etc. Schemes for placement of students and follow-up of these records are briefly mentioned.—A. T. Poffenberger (Columbia).

922. **Public Personnel Administration Bureau Staff. Suggested tests for fire lieutenant.** *Pub. Person. Stud.*, 1927, 5, 19-23.—Like other test series produced by the Bureau Staff this one for the selection of fire lieutenants, based upon the duties, qualifications, and compensation involved, uses a set of completion, multiple-choice, and true-false items regarding equipment, materials and method, and questions dealing with printed matter relating to the occupation. Length of service and efficiency ratings in lower ranks of the service are used as supplementary features of the consideration. Physical condition is a decisive factor in determining the fitness of a man to become an applicant. The tests are in no sense standardized, but merely suggested for experimentation.—K. M. Cowdery (Stanford).

923. **Rice, S. A. "Stereotypes": a source of error in judging human character.** *J. Person. Res.*, 1926, 5, 267-276.—Nine portraits of notable persons were placed without identification upon a sheet of paper and numbered from 1 to 9. The subjects, 258 undergraduates of Dartmouth College and 31 members of the Norwich, Vermont, grange, were informed that the sheet contained pictures of a European premier, a bootlegger, a Bolshevik, a U. S. Senator, a labor leader, an editor-politician, two manufacturers and a financier. The actual number of correct identifications was almost twice the number to be expected on a chance basis. Interesting results were noted. For instance, in the case of the Soviet envoy, a winged collar and Van Dyke beard and moustache, contributing to a distinguished appearance, probably led to the 59 identifications as U. S. Senator as compared with nine as a Bolshevik and none as labor leader. The bootlegger, pictured in outdoor costume, was most easily identified and received the largest number of correct identifications. The complete data show that in nearly every instance, the characters who received a high number of correct identifications were those whose appearance fitted them definitely into some pronounced stereotype among those called forth by the characters named. It seems evident that a method of arriving at judgments concerning character of men and women sufficiently realistic to serve as a basis for an employment policy, for instance, cannot depend to any great extent upon photographs.—L. M. Greene (Columbia).

924. **Shellew, S. M. Selection of motormen: further data of value of tests in Milwaukee.** *J. Person. Res.*, 1926, 5, 183-188.—A report concerning the value of Motorman Selection Tests as used since January 1, 1925, by the Milwaukee Electric Railway and Light Company in the selection of all motormen. (These tests were described in the *J. Person. Res.*, 1925, 4, 222-237.) In checking results two groups of motormen were selected for comparison. Group I consisted of all new men, 163 in number, employed between January 1, 1924 and January 1, 1925. Since these men did not take the Motorman Selection Test, this group is designated as "unselected." Group II consisted of all new men, 166 in number, employed between January 1, 1925 and January 1, 1926 and is termed "selected," since its members were employed on the basis of test results. The criterion of vocational proficiency which was employed was turnover. Of the "unselected" group 14.1 per cent were discharged for having too many accidents. Of the "selected" group only 1 was discharged for this reason. Since men are discharged for other reasons, however, it is recommended that the tests reported in the original article be supplemented by other measures of the individual, social as well as psychological. It is estimated that the sav-

ing to the company effected by these methods of selection amounted to \$60,000 in one year.—*H. D. Kitson* (Columbia).

925. **Short, O. C.** *Suggested tests for vegetable gardener.* *Pub. Person. Stud.* 1926, 4, 338-342.—For the purpose of selecting vegetable gardeners for institution farms in the public service (duties, qualifications and compensation listed) two tests are described, (1) completion, multiple-choice, and true-false type items regarding work, crops, materials and tools; (2) fifteen questions for single-word and short phrase answers regarding a printed passage of literature relating to gardening. Tentative weightings or item scores and a table to convert scores into ratings in terms of a passing mark of 70 are given. Facts as to the applicants' education, experience and physical ability are suggested as parts of the examination, but with relatively low weight in the battery. A footnote explains that the tests have not been standardized in the technical sense.—*K. M. Cowdery* (Stanford).

926. **Stott, M. B.** *How Europe is organized for guidance.* *Indus. Psychol.*, 1927, 2, 95-101.—A brief description of the nature and activities of each of twenty-one institutions concerned with vocational guidance in Europe. The institutions are divided into three classes according to whether they emphasize research, personal guidance or the gathering and dissemination of occupational information.—*A. T. Poffenberger* (Columbia).

927. **Viteles, M.** *The clinical method in industry.* *Indus. Psychol.*, 1926, 1, 753-758.—A discussion of the process of readjustment of the worker who is dissatisfied with or incompetent in the job for which he is hired. A "clinical" method is advocated which involves the careful study of individual cases of misfits. Case studies are given to show how the method works.—*A. T. Poffenberger* (Columbia).

928. **Viteles, M. S.** *Psychology in industry.* *Psychol. Bull.*, 1926, 23, 631-680.—A review of the literature (360 titles) on vocational selection, merchandising, and other industrial applications, appearing between April, 1922, and April, 1926.—*J. F. Dashiell* (North Carolina).

929. **Walther, L.** *Industrial guidance progress in Europe. The status of psychotechnique in Germany, Switzerland and France.* *Indus. Psychol.*, 1926, 1, 801-803.—Primarily a statement of some problems met in vocational psychology, with a few illustrations taken from industries in Germany, France and Switzerland.—*A. T. Poffenberger* (Columbia).

930. **Yaglou, C. P.** *To gauge workroom temperatures.* *Indus. Psychol.*, 1927, 2, 3-7.—The atmospheric conditions on which effective work depends are temperature, humidity and rate of movement of the air. Charts are shown from which one may read directly the various combinations of the three above named factors which will give proper working conditions for sedentary work and for active physical work.—*A. T. Poffenberger* (Columbia).

[See also abstracts 751, 782, 951, 958, 963.]

CHILDHOOD AND ADOLESCENCE

931. **Aldrich, C. A.** *The prevention of poor appetite in children.* *Ment. Hygiene*, 1926, 10, 701-711.—Chronic anorexia in childhood is usually a purely psychological problem. It develops after a readily understandable physical or mental cause has resulted in a temporary loss of appetite. A forcing of food at this time, when proper regard for the situation would counsel withholding it, fixes upon the patient a psychological aversion to food, from which he may recover with great difficulty. Prophylaxis rather than treatment holds out the promise of success in combating this condition. It is, in general, directed

against any attempts to force the child to eat. This procedure is not harmful to the nutrition of the child.—*G. J. Rich* (Institute for Juvenile Research).

932. **Blanton, S., & Blanton, M. G. Child guidance.** (Intro. by T. W. Salmon.) New York: Century, 1927. Pp. xviii + 301. \$2.25.—The book presents material for the understanding and guidance of the normal child, although much of the material will also be helpful in dealing with abnormal cases. The presentation is in terms of the authors' wide clinical experiences rather than in terms of laboratory experimentation and tests. The book is written primarily for parents, but all students of child behavior will profit by its study. In general the development of topics is from simple to complex. Part I discusses child guidance, original endowment, excretory functions, sensory training, and learning to eat, sleep, walk, and talk. Part II discusses the nursery, the child's calendar, the mysteries, learning to adjust to the group, discipline, nervousness, and intelligence. Part III discusses written records, social behavior, and character traits. Stress is laid upon the "cross on the line" method of rating, a method reminiscent of the Scott Rating Scale. The treatment throughout the book is infused with the milder aspects of the psychoanalytic point of view. The following quotations help to give the authors' point of view and the atmosphere of the book. "No one can foresee everything, but there are some things of which we may be fairly sure in our dealings with children. They do nothing that is accidental and they do nothing that is insignificant from the viewpoint of training. A thing as small as a grain of sand in the shoe may be a character determiner of the gravest sort. Psychological causes may be smaller still." "When the elders of a household have to creep in and out as though they were burglars just because 'baby is taking a nap'; when they have to eat infantile diet for fear of arousing the appetite of the child for some special food, or when they fear to enforce a reasonable request because the child might not like it, then his future as a useful member of society is being jeopardized." Many clinical cases are reported.—*W. S. Hunter* (Clark).

933. **Drummer, E. S. Changing ideals of parenthood.** *Prog. Educ.*, 1926, 3, 289-294.—Treats the psychological dangers of parental domination and the difficulties of steering the wise course between parental protection and emotional fixation.—*A. L. Allport* (Dartmouth).

934. **Fisher, R. D. The emotional life of the child.** *Prog. Educ.*, 1926, 3, 346-350.—Healthy emotional life of a child is based on security in his parents' affections and satisfaction in his own activities. The genesis and rôle of fear, rage, and love are considered, with suggestions as to their beneficial control. Particular stress is placed on general physical well-being as essential to emotional balance.—*A. L. Allport* (Dartmouth).

935. **Hunt, J. L. Shall we demand efficiency in play?** *Prog. Educ.*, 1926, 3, 305-311.—An attack on the notion of play as "untaught or instinctive activity." The opportunity and equipment for learning the most efficient sort of muscular and mental play should be provided.—*A. L. Allport* (Dartmouth).

936. **Kirkwood, J. A. The learning process in young children: an experimental study in association.** *Univ. Iowa Stud.: Stud. Child Welfare*, 1926, 3, No. 6. Pp. 107.—Twenty small wooden blocks of geometrical design and twenty simple outline pictures that resemble the blocks in some way furnished the material for this learning experiment. The learning consisted in forming the correct association between each one of the pictures and one of the blocks. Different methods of presentation were tried with groups of children equated on the basis of mental age, height, and weight. The subjects were 203 children from the pre-school laboratories of the Iowa Child Welfare Research Station and from five kindergartens in an Iowa town. Results are given of the number of trials required for complete learning, the effect of presentation of material on alternate versus successive days, relearning after an interval of a year, transfer and inter-

ference in learning, and correlations with mental age and some tests of special capacities. Individual curves are also given.—*B. Wellman* (Iowa Child Welfare Research Station).

937. **Lowrey, L. G.** *Environmental factors in the behavior of children.* *Amer. J. Psychiat.*, 1926, 6, 227-242.—An analysis of "problem" situations discussed in terms of normal, satisfying or successful behavior as well as in terms of abnormal, unsatisfying or unsuccessful behavior. The individual is conceived as "a dynamic organism, subject to certain laws of growth and relationships to the physical environment," rather than as an isolated product of hereditary constitution or of environment. Behavior disorders in children due to the attitude of the parent or teacher—as domination by the parent, or jealousy, or absence of a normal emotional attitude in the parent—emphasize the point that the dynamic relationships in the home and school are of first importance, and must be dealt with adequately in "problem" cases if the child's behavior and personality are to be affected.—*B. Kendall* (Boston Psychopathic Hospital).

938. **Robinson, V. P.** *Records in understanding children.* *Prog. Educ.*, 1926, 3, 318-322.—Mothers should keep records of their children's activities, in order (1) to increase objectivity towards their problems, (2) to reveal inconsistencies of treatment, (3) to secure permanent material on special problems for study and analysis.—*A. L. Allport* (Dartmouth).

939. **Smith, M. E.** *An investigation of the development of the sentence and the extent of vocabulary in young children.* *Univ. Iowa Stud.: Stud. Child Welfare*, 1926, 3, No. 5. Pp. 92.—The method used for the first part of this investigation was an analysis of individual records made of all words used spontaneously by eighty-eight pre-school children during an hour of free active play with other children. The method was found to be a useful one for a comparative study of sentence development. The most significant differences in sentence development with age were an increasing length of sentence, a greater frequency of complete sentences, and a decrease in the amount of repetition of identical phrases. Extent of vocabulary was determined by a test which utilized objects, pictures, actions and questions. The average number of words in the vocabularies of 273 children increased from 0 at eight months to about 2,500 at six years. The most significant factor in increase in vocabulary was that of mental age.—*B. Wellman* (Iowa Child Welfare Research Station).

940. **Van Waters, M.** *Parents in a changing world.* *Survey*, 1926, 57, 135-140.—Traces the change in the type of family and its functions showing some of the consequences of change observed in the juvenile courts. The family, however, is still the greatest school of personality, giving to the individual his social resources, attitudes, and patterns of behavior.—*A. L. Allport* (Dartmouth).

941. **Van Waters, M.** *Nineteen ways of being a bad parent.* *Survey*, 1927, 57, 433-439.—Nineteen cases illustrating as many ways of being a bad parent, with an italicized dictum at the end of each case.—*A. L. Allport* (Dartmouth).

942. **Van Waters, M.** *"I would rather die than go home."* *Survey*, 1927, 57, 565-569.—Antagonism of a child to its parents and home occurs in broken homes, among children of divorced parents, children who have been adopted and only children of aged parents. It does not exist in homes where father, mother and two or three children live and work together. All children live in day dreams. The lonely child, placed in an atmosphere which is emotionally uncongenial, becomes hurt and repairs the damage by creating a dream. Antagonism develops partly as a feeling or irritation at being interrupted while repairing an unsatisfactory world. Humiliations, such as ridicule, sarcasm, petty slights, the meeting of emotional warmth with coldness, and reprimands, are favorable to the development of antagonism.—*G. J. Rich* (Institute for Juvenile Research).

943. **Wiggam, A. E.** *How smart are your children?* *Amer. Mag.*, 1926, 102, 7ff.—An interview with Professor Terman, and a popular presentation of

the standardization of the Stanford revision of the Binet-Simon tests.—*A. L. Allport* (Dartmouth).

944. **Wiggam, A. E.** *How to teach a smart child.* *Amer. Mag.*, 1926, 102, 26ff.—An interview with Professor Terman on what to do with bright children. The advantage of the special opportunity room is presented as a way to cope with intellectual precocity. Various bogies are shattered, such as the close association of genius and nervous instability, physical or social or moral inferiority. The most noticeable thing about gifted children is their passion to learn.—*A. L. Allport* (Dartmouth).

945. **Wissler, C.** *Sex differences in growth of the head.* *School & Soc.*, 1927, 25, 143-146.—Wissler presents for the first time the data of the late L. R. Sullivan on the cephalic index of 9000 children ranging in age from 6 to 20 years and belonging to the six different racial groups found most frequently in Hawaii. Combining these data with those of Ranke and Tschepourkowsky, he notes the following: (1) The cephalic index of both sexes decreases during the school years. (2) In the first years of life, among Central Europeans at least, the index increases. (3) While female infants for the first few months are less round-headed than male infants, and girls of school age are also less round-headed than their boy companions, the reverse relationship obtains for the pre-school, pubertal, and adult periods. (4) Sex differences in cephalic index are greatest for the round-headed races. The possibility of using the cephalic index as an indicator of general growth rate is considered, as is also the relation between index changes and the growth of brain parts.—*H. L. Koch* (Texas).

[See also abstracts 716, 719, 789, 824, 832, 857, 868, 883, 886, 887, 931, 960, 965.]

EDUCATIONAL PSYCHOLOGY

946. [Anon.] *Speaking of college women.* *Kalends* (Waverly Press), 1927, 6, 3-4.—A brief discussion of a survey of the 29,000 women readers of the *Journal of the American Association of University Women*. A questionnaire was sent to 967 representative subscribers selected at random, the number in each state depending upon the circulation of the journal in that state. The returns, totaling 37%, yield the following facts: number married, 42%; teaching, 42%; engaged in business other than teaching, 23%; members of women's clubs, 83%; interested in good books, 70%; interested in travel, 93%.—*M. Goodrie* (Clark).

947. **Benson, C. E., Lough, J. E., Skinner, C. E., & West, P. V.** *Psychology for teachers.* Boston: Ginn, 1926. Pp. x + 390.—This book was written to meet the needs of teachers and prospective teachers who are seeking a brief treatment of psychological facts that have a bearing on their problems. It is intended primarily as a text-book for normal schools and teachers' colleges. It covers briefly a wide range of topics. In addition to the topics more or less commonly discussed in such a volume, namely, the nervous system, sensation, perception, attention, memory, emotions, habits and laws of learning, transfer of training, the text includes a chapter on each of the following: individual differences, statistical method, measurement, and mental hygiene. At the end of each chapter a bibliography and a series of questions are given. In the appendix 283 questions are given for the purpose of aiding the student in a review of the field of educational psychology. Besides these aids to study and teaching, 29 school situations (the authors do not state whether these are real or imaginary) are described and questions appended for the purpose of having the student apply principles learned. A suggested vocabulary test, true-false examination,

completion test, and an essay type of examination are also included in the appendix. The text does not represent one system of psychology. Each of the authors was responsible for certain chapters. However, unity was sought by having one of the authors rewrite the entire text from the separate manuscripts submitted. The style is very direct. Brevity of treatment in most cases forbids the weighing of much evidence on disputed points; however, the reader is not left in doubt as to the author's or authors' interpretation. The development of each topic is straightforward and relatively simple.—*V. A. Jones (Clark)*.

948. **Book, W. F.** *How to develop an interest in one's tasks and work.* *J. Educ. Psychol.*, 1927, 18, 1-10.—Educational psychology at Indiana University had been changed from an elective to a required course. Students at the beginning of the course were asked why they took it. In the great majority of cases, students had taken educational psychology because it was a required study in their course. They had entered the course, therefore, with an entirely wrong attitude. The problem was to discover a means of arousing interest in these students so devoid of it. To begin with, interest plays an enormous rôle in getting work done. Typists under this urgent drive have, since 1906, increased the speed of writing from 82 correct words each minute for one hour to 147 correct words; hand compositors in printing increased their speed on the average 78%, and college students working under an incentive increased their speed remarkably. It thus seemed abundantly worth while to strive to change the attitude of the class. In order to secure interest, (1) build new interests on native interests, (2) secure new information, (3) plan the work so that students can succeed in it. This last principle is of particular importance in "*making a student exert himself fully and vigorously towards his tasks.*" At Indiana the class (1) discovered the attitude which its members held, (2) made a careful study of the results gained by other experimenters on the effect of attitude on success in work, (3) worked out what the most favorable attitude is and what result it might accomplish, and (4) was given references which explained exactly what was to be done to gain the correct attitude. The results were favorable.—*A. M. Jordan (North Carolina)*.

949. **Bovet, P.** *Psikanalizo kaj edukado.* (Psychoanalysis and education.) Geneva: Institut J. J. Rousseau, 1925. Pp. 37.—A brief review of psychoanalysis and its application in education. A discussion is given of repressed tendencies as interpreted by automatic acts, dream material, and associations of ideas. Various signs of conflict are explained psychoanalytically, and the importance of early integration of desires is stressed. What the author says of children applies equally to educators, who cannot act effectively unless they have renounced infantile ego desires. Although all children, even those seemingly well, could perhaps be benefited by psychoanalytic treatment, those who are most obviously in need of it are juvenile offenders and orphans, upon whom experiments have been made in a few places with encouraging results. Educators cannot take the place of a trained psychoanalyst, but they can act effectively with some knowledge of psychoanalytic methods. The Institut Rousseau has given psychoanalysis an important place in its curriculum. The article mentions the work of Freud, Pfister, Healy, and Flournoy.—*M. Goodrie (Clark)*.

950. **Caldwell, O.** *The scientific study of the curriculum.* *School & Soc.*, 1927, 25, 117-124.—Caldwell's address to Section Q of the American Association for the Advancement of Science is an integration of comments on a variety of topics, including the connotations of the terms "research" and "scientific method," the relativeness of accuracy, the progressive nature of truth, the cumulative nature of the natural sciences, outstanding studies in the field of curriculum, and the problem of training investigators for curricular research.—*H. L. Koch (Texas)*.

951. **Cowdery, K. M.** *How colleges can help vocational choices.* *Indus.*

Psychol., 1926, 1, 762-766.—A survey of vocational guidance activities of the college personnel office. "The college and university have their places in the vocational guidance field in gathering and making available information about occupations and professions with research into methods of identifying, measuring and predicting abilities, traits and other qualifications necessary to success in these vocations; with preparing for professions, demanding university education, training organized on a basis of carefully determined requirements, not necessarily the accepted traditional program; and with providing their own students with guidance suited to their own particular needs."—*A. T. Poffenberger* (Columbia).

952. **Crawford, C. C.** *Methods of study*. Los Angeles: C. C. Crawford, Department of Education, University of Southern California. 1926. Pp. 163. \$2.00.—The book is designated as a text in courses in "How to Study," and the material is presented in outline form. The author emphasizes the value of scholastic achievement, urges efficiency in study, presents some of the more valuable methods, and warns against inefficient methods. The book contains sixteen chapters, on the importance of study, working conditions, objectives, textbooks, note-taking, the library, recitations, the laboratory, examinations, and similar topics.—*J. R. Liggett* (Clark).

953. **Crofoot, B. L.** *Remedial reading*. *School & Soc.*, 1927, 25, 205-206.—A group of 29 teachers, ranging in age from 21 to 43 years, took a course in remedial reading for one term of a summer session. They applied to themselves the remedial techniques about which they were studying. Different forms of the Monroe Reading Test III and the Thorndike-McCall Reading Test were given at the beginning and at the end of the term. Whereas only 2 teachers of the group exhibited a college standard of reading at the beginning of the session, 11 to 14 had attained that proficiency at the close. The work was done at Hampton Institute, Hampton, Virginia.—*H. L. Koch* (Texas).

954. **Elder, H. E.** *A study of rapid acceleration in the elementary school*. *J. Educ. Res.*, 1927, 15, 5-9.—Comparison of the grades of 22 accelerated pupils with those of 696 others not accelerated in the schools of Monticello, Indiana. Acceleration shifts the grades downward for both bright and less bright pupils.—*S. W. Fernberger* (Pennsylvania).

955. **Guthrie, E. R.** *Measuring student opinion of teachers*. *School & Soc.*, 1927, 25, 175-176.—285 students who had had at least a year's contact with campus life at the University of Washington and 365 who had had a contact of only 6 weeks ranked in regard to teaching ability the instructors under whom they were studying. 85 advanced students both rated and ranked theirs. For the group who gave their judgments at the end of the academic year the correlations between comparable series of single rankings by different individuals was .26; that between the average of 2 series of 8 ranks was .79; and that between judgments given by the same individuals a month apart was .89. The novice group, on the other hand, gave correlations corresponding to the last two described above of .56 and .72, respectively. It is concluded that students tend to agree in their opinions concerning the ability of their instructors; that the consistency among student judgments is greater at the end of the year than at the beginning; that faculty judgments of faculty are less uniform than those of the students; that some teachers are ranked higher by seniors than by freshmen and vice versa; and that ratings are slightly more reliable than are rankings.—*H. L. Koch* (Texas).

956. **Haddock, N. P.** *The use of the Stanford Achievement Test to indicate high-school success*. *School & Soc.*, 1927, 25, 114-116.—By studying the distribution of the Stanford Achievement Test educational ages and quotients of the eighth-grade pupils in Louisville in relation to the distribution of the grades received by these pupils in non-advanced credit courses in the first term of their

high-school work, the predictive value of the Stanford Test is estimated. Seventy per cent. of the failing grades were made by students with an E.Q. below the median one of 105. On the whole, students with the higher E.Q.'s. presented the higher marks.—*H. L. Koch* (Texas).

957. **Hertzberg, O. E.** *The interest factor as related to methods of introducing beginners to writing.* *J. Educ. Res.*, 1927, 15, 27-33.—Various devices were employed, such as objects and mechanical arrangements. Interest record blanks were kept for the different methods used. Groove tracing proved to be the most interesting of the mechanical methods used. A combination method held the interest best of all. Little or no transfer of ability with the mechanical devices was found for actual writing.—*S. W. Fernberger* (Pennsylvania).

958. **Holbrook, D. W.** *The college studies its students.* *Indus. Psychol.*, 1927, 2, 41-48.—A description of the development and use of the personnel record card at Northwestern University. The card is reproduced.—*A. T. Poffenberger* (Columbia).

959. **Institut J. J. Rousseau.** *Esperanto language test.* Geneva: Institut J. J. Rousseau, 1926.—An achievement test for students of Esperanto, designed to test the recognition of words and the comprehension of phrases. Consists of 6 short paragraphs, each followed by 3 or 4 questions to be answered, in writing, by the student.—*M. Goodrie* (Clark).

960. **Jensen, D. W.** *The gifted child. 1. Educational concepts and practices.* *J. Educ. Res.*, 1927, 15, 34-45.—General review of the literature. Bibliography of 88 titles.—*S. W. Fernberger* (Pennsylvania).

961. **Keboch, F. D.** *Variability of word-difficulty in five American history texts.* *J. Educ. Res.*, 1927, 15, 22-26.—The words on 45 pages of five text books were counted and checked against the Thorndike list. The results are treated statistically. Little variability in word difficulty was found in these five books.—*S. W. Fernberger* (Pennsylvania).

962. **Lutes, O. S.** *An evaluation of three techniques for improving ability to solve arithmetic problems: a study in the psychology of problem solving.* *Univ. Iowa Monog.: Monog. Education*, 1926, No. 6. Pp. 41.—An attempt was made to discover desirable techniques for improving mass instruction in the ability to solve arithmetic problems. The experiment was conducted in the sixth B class of each of twelve elementary schools in Des Moines, Iowa. Three techniques were used with different groups of children: (1) the computation method, by which the group was drilled in computation only; (2) choosing operations procedure, by which questions were asked to call attention to crucial points in the problem and the pupil was asked to indicate which operation was required; and (3) choosing solutions method, by which different solutions were presented and the child was asked to choose the right solution. A control group was used. The computation method was found to be the most effective of the three. Motivation was found to be an important factor, since all groups, including the control group, made greater than normal or expected gains.—*B. Wellman* (Iowa Child Welfare Research Station).

963. **Lytle, C. W.** *The college goes to the factory.* *Indus. Psychol.*, 1926, 1, 771-775.—A statement of the requirements for successful coöperative training, in which students alternate between practical work in shops and study.—*A. T. Poffenberger* (Columbia).

964. **Norlin, G.** *The liberal college.* *School & Soc.*, 1927, 25, 85-91.—A plea is presented for an education devised to put the student in possession of a broad knowledge of the relationships of the facts and phenomena of the universe. A general technique for reaching this goal in the college is suggested.—*H. L. Koch* (Texas).

965. **Pechstein, L. A., & Jenkins, F.** *Psychology of the kindergarten-primary child.* Boston: Houghton Mifflin, 1927. Pp. xv + 281. \$2.00.—The

book is a textbook of child psychology and education. The authors have endeavored to combine the best educational practice in this field with the science underlying this practice, and have tried to include the more recent work in educational psychology. The book is divided into two parts. The first part, general psychology of the kindergarten-primary child, contains twelve chapters, as follows: psychology for use; origin, development, and present status of child psychology; background of Froebelian philosophy; childhood and growth; the unlearned element in response; the element of learning; the intellectual element; the emotional element; the volitional element; individual differences in children; mental basis of classification; educational and moral growth. The second part, applied psychology of the kindergarten-primary child, is divided into the following twelve chapters: major groups and groups within groups; the school-room: its furnishings and equipment; the day's work replacing the stereotyped program; promotion standards; socializing the class; community interpretation through the project; how the story extends experience; contribution of the fine arts to child life; early use of language; growth in control of written language; importance of the beginning years in reading; interpretation of experiences with numbers. Questions and problems are given at the end of each chapter, and lists of references are given for each major topic.—*J. R. Liggett* (Clark).

966. **Pink, M. A. Procrustes, or the future of English education.** New York: Dutton, 1927. Pp. 108. \$1.00.—Blind faith in education as a universal panacea is giving way to a realization of the obstinate fact that education presupposes children who are educable—an assumption more pleasant than verified, so far as present techniques are in question. Present techniques, furthermore, are badly out of adjustment with the current economic picture, having been developed rather in response to prestige-prejudice than any recognition of reality. What to do? After extensive variations in the content offered, "constantly observe the individual child and guide him along lines which offer him the best chance of intellectual progress, and which give the best opportunities for a career in life." What, precisely, this might imply is explained at some length. As to the universities, not much hope is in sight, the trend being all toward the idolization of "research" without any underlying concept of What For; the "academic" mind, uncritically demanding and accorded homage, is, notwithstanding, ludicrously out of touch with the actual facts of existence.—*R. R. Willoughby* (Clark).

967. **Schmalhausen, S. D. Humanizing education.** New York: New Education Publishing Company, 1926. Pp. 343. \$2.50.—"The gulf between education and enlightenment grows more vast." The ponderous systems to which the American Babbitry renders lip service are top-heavy engines manipulated by third-rate minds for their own power and prestige, and for the prevention of sanity and competency in children. The beginning of wisdom is *disillusionment*—unless a fair proportion of intelligent men become willing to give up their play-worlds and face life as it is, there is no hope. The second step is *critical-mindedness*, which "America, speaking educationally, is persuaded is a crime against good manners." One of the fundamental necessities in any education meriting to be called genuine is a vigorous coming to grips with the sex life underlying all of existence. Only less important is an unsparing realization of the overwhelming degree to which human nature is *inhuman*—irrational, emotion-driven, beast-like. Nor can the total sociologic situation be avoided—the tremendous problems of the economic order, of war and its impulses, of evil. The coherence here exhibited is that of the six major divisions; the separate essays, from two to a dozen pages long, cover phases of the existing order as diverse as a critique of psychoanalysis and "the dogmatism of young thinkers," and were apparently written at odd times over a considerable period. The concluding essay appeared in the October (1926) *Psychoanalytic Review* under the

name of S. D. House, and is followed by an appendix "in brief" (30 pages) largely occupied with the Odyssey of the author's unsuccessful attempts to find a publisher.—*R. R. Willoughby* (Clark).

968. **Skinner, C. E., Gast, I. M., & Skinner, H. C.** *Readings in educational psychology*. New York: Appleton, 1926. Pp. xxvii + 833.—This book consists of over six hundred selections from many different authors. These selections vary in length from short paragraphs to ten and fifteen page articles. The readings are compiled especially for students of general psychology, educational psychology, and principles of education. The aim of the book may be indicated by the following from the authors' preface: "Readings have been included from different authorities on the same subject which represent diverse points of view. It has also been the purpose of the editors to include descriptions of the various modern theories and practices in the entire field of educational psychology, and to cite exact references for more extensive assignments, or for the use of the student in making a more detailed and careful study of the particular problem in hand. In the selection of the readings the editors have sought to include excerpts that will be most serviceable, helpful, and thought-provoking." The readings have been classified under the following main headings: the problems and scope of educational psychology; the components of behavior; the physical basis of behavior; heredity and environment; intelligence; individual differences; instincts; emotions, feelings and attitudes; the learning process; habit in learning; how to study; apperception and perception; association and memory; imagination; thinking and teaching to think; attention, interest, and motivation; play and the play spirit in education; deliberation and decision; transfer of training; mental work and fatigue; childhood and adolescence; mental hygiene; interpretations in psychology; statistical methods for teachers. The authors have included questions, exercises, and suggestions for further readings at the end of each chapter. A glossary of definitions of the various terms commonly used in educational psychology is also included.—*J. R. Liggett* (Clark).

969. **Van Wagenen, M. J.** *Educational diagnosis and the measurement of school achievement*. New York: Macmillan, 1926. Pp. viii + 276.—The author of this book carried out an achievement survey in a small town, two small cities, and a large city, all in Minnesota. In this work a technique was developed by which such a survey can be made quite as well by the local school people as by outsiders, and "wherein the results may be made available and intelligible for evaluating class room practices, deciding upon promotions, assigning school marks, or making more adequate classifications of the pupils for instructional purposes. This has necessitated the devising of educational scales in several subjects of instruction in which they were lacking, coordinating the results on achievement scales with mental test scores, working out a manual of directions by the use of which most technical difficulties involved in the scoring of tests will be eliminated, the devising of an easily used and easily interpretable series of individual and class record cards and a distribution sheet for summarizing the scores, and inventing the necessary charts for finding whatever derived measures may be desired." In this volume results of these surveys are presented illustrating the use of these findings in the elementary schools, junior high schools, and high schools in these communities of various sizes. Suggestions and detailed descriptions of a program for such a survey are given, with the suggestion that it could be carried out during the time usually given over to final examinations. Many charts, plates, and figures are presented, showing methods of treating data, use of record cards, classification tables, distribution sheets, etc. The function of measurement is threefold: selective, evaluative, and diagnostic. The mental test best fulfills the selective function, while the evaluative function is best performed by the educational scales. There are special diagnostic tests

in the various fields. All three types of test are included in the survey which is described in this book.—*L. M. Harden* (Clark).

970. Worcester, D. A. The wide diversities of practice in first courses in educational psychology. *J. Educ. Psychol.*, 1927, 18, 11-17.—Recent investigations have shown the importance of educational psychology for the prospective teacher. It has become a required course in most teacher training institutions, and yet there are several serious difficulties with it. In the first place, there is no established position for it in the curriculum. Some institutions give it in the freshman year, others in the sophomore, and still others in the junior year. In the second place, the most severe indictment of the present condition arises out of the very discrepant nature of the courses called by the same name. A careful analysis of the contents of text books used, particularly in the sophomore and junior years, finds only medium agreement among them. In those texts resembling each other most closely not more than 50% of the pages cover substantially the same material, while in those resembling each other least not more than 33% of the pages cover the same material. This, the author thinks, is a serious indictment of a required course. He suggests an attack on the question through the problems arising in the school room.—*A. M. Jordan* (North Carolina).

[See also abstracts 887, 898, 903, 904, 906, 915, 921, 935, 979, 981, 982.]

BIOMETRY AND STATISTICS

971. Gheorghiu, S. A. Sur la théorie de la corrélation. (On the theory of correlation.) *C. r. Acad. sci.*, 1926, 183, 342-344.—A note on the theory of correlation, with consideration of the special case where dependence between the two series of statistical values is of parabolic form.—*J. E. DeCamp* (Pennsylvania State).

972. Toops, H. A. On computing the average deviation from the mean. *J. Educ. Res.*, 1927, 15, 46-51.—By an adaptation of Kelley's formula, the computation of the average deviation becomes far simpler for handling than the computation of the standard deviation for the work with correlation and regression formulae. An example is worked out.—*S. W. Fernberger* (Pennsylvania).

[See also abstract 974.]

MENTAL TESTS

973. Downey, J. E., & Uhrbrock, R. S. Reliability of the Group Will-Temperament Tests. *J. Educ. Psychol.*, 1927, 18, 26-39.—This article reports the results of a thoroughgoing investigation of the reliability of each of the 12 items of the Downey Group Will-Temperament Tests. The reliability is computed not only for the tests as scored in the normal manner but also for the tests when various other methods of scoring are tried. 149 normal-college women, 37 high school girls, and 42 high school boys were given the Downey Group Temperament Tests on successive days. Since age might be an important factor the coefficients were computed for each group. The self-confidence test, the non-compliance test, and the finality of judgment tests gave very low reliabilities indeed. The reliabilities of the remaining tests seem more promising, ranging from about .32 to .90. The items of the tests which have the highest reliability are speed of movement (both tests) and motor impulsion. In many cases the reliabilities of these three tests are .80 or above. In summary, the author suggests that in

some tests slight changes in scoring would raise the reliability. Again, "There operates in group will-temperament testing, not only a social factor, but also a definite mental set or attitude which the examiner must seek to control." Finally, because of variations in behavior from group to group, "it is suggested that each examiner consider his group as a unit, that he work out a percentile distribution of the raw scores, and score by percentile rank rather than by published norms."—*A. M. Jordan* (North Carolina).

974. **Foster, R. R., & Ruch, G. M.** On corrections for chance in multiple-response tests. *J. Educ. Psychol.*, 1927, 18, 48-51.—1,977 pupils who had already taken a completion test of historical information were divided by chance into 8 smaller groups of from 221 to 281. Each of these smaller groups was tested with a history test in one of the following forms, each of which had either "guess" or "do not guess" instructions: 5-response, 3-response, 2-response, true-false. Correlations of zero order were then computed with the students' scores on the completion test. The paper presents also a number of multiple regression equations which show the relative weights found for *rights*, *wrongs*, and *omissions* in estimating a selected criterion. Results in true-false, 2-response, and 4-response tests with instructions to "guess" give higher correlation with completion than they do when accompanied by instructions "not to guess." "... The prediction can be raised by the use of the wrongs and omissions (if any) in comparison with the zero order coefficients." The multiple regression technique seems not very adequate in determining proper weights for rights, wrongs, and omissions.—*A. M. Jordan* (North Carolina).

975. **Kornhouser, A. W.** Results from the testing of a group of college freshmen with the Downey Group Will-Temperament Test. *J. Educ. Psychol.*, 1927, 18, 40-42.—The Downey Group Will-Temperament Tests were given to 111 freshman students in the University of Chicago. Each of the twelve items was correlated with (a) first year college marks and (b) estimates of character traits. With college marks the coefficients were very low indeed. They run as follows: test 1 = .01; test 2 = .10; test 3 = .04; test 4 = .15; test 5 = .15 and so on to test 10 = .20. It is clearly seen that the relation between the tests and marks approximates zero. With estimates of character the relations are not essentially different. Whether the estimates are the pooled estimates of the faculty or of students, or whether the student rates himself, the coefficients with the items of the tests are very low, indicating no relationship at all. The traits rated, to which reference has just been made, were: industry, accuracy, and initiative.—*A. M. Jordan* (North Carolina).

976. **Pihlblad, C. T.** Mental tests and social problems. *Soc. Forces*, 1926, 5, 237-243.—Many writers assume that the cultural level of any race, nation or class is dependent upon the innate qualities or capacities of that group, that cultural differences or social status can be explained in terms of mental or intellectual differences, that mental character is largely due to heredity, and that mental tests measure hereditary capacity or native intelligence. On the basis furnished by these assumptions, it is argued that demonstrated inequalities render futile any social and political system based on equal opportunities for all, and that education is incapable of coping with the situation. These conclusions are untenable. Intelligence tests are much influenced by differences in training, education and cultural background. At best they measure only a restricted range of abilities, whose social importance is not proven. Intelligent collective behavior is conditioned to a greater degree by the dissemination of information and knowledge among the masses than it is by cultivation of the intellectually élite. Group efficiency depends on social organization and the general level of group culture as much as it does on the average innate capacity of the group.—*G. J. Rich* (Institute for Juvenile Research).

977. **Pintner, R.** The Pintner-Cunningham primary test. *J. Educ. Psychol.*, 1927, 18, 52-58.—New standards, correlations with Binet and other intelligence tests, reliability, and median scores for the different geographical divisions of the United States are presented for the Pintner-Cunningham Mental Test for kindergarten and first grade children. The new standards differ only a little from the old; the greatest difference appears at ages 8 to 9½ and 10 to 11. These new standards are based on a total testing of 29,533 children. In four cases the correlations with Binet range from .60 to .88; with group tests the correlations range from .67 to .79. Reliability coefficients range from .72 to .85 when sufficient cases are used to warrant the computation of a coefficient; when the median scores for children in different divisions of our country are computed the west north central section leads and the southern states in general are the lowest. The author finds these results in substantial agreement with the findings of the Army Alpha tests with mature individuals. He suggests that the differences between geographical divisions may be due to heredity, since the children were just entering school.—*A. M. Jordan* (North Carolina).

978. **Regensberg, J.** Social implications of mental testing. *Family*, 1927, 7, 295-300.—The scores obtained in intelligence tests must always be interpreted in the light of the emotional responses of the child. A number of social and emotional factors may make a test score unreliable for diagnostic purposes, so that it is at times necessary to ignore the test score because of the greater value of other factors.—*G. J. Rich* (Institute for Juvenile Research).

979. **Richards, O. W.** Test construction in less standardized subjects illustrated by the Richards Biology Test. *School Sci. & Math.*, 1927, 27, 22-27.—From data secured in reply to a questionnaire sent to school superintendents of all cities over 100,000 population it was found that there is a wide variety of courses taught as biology, and that the courses are usually adapted to the individual needs of the community. It was also found that 6 textbooks represented about 80% of those used in schools. The content of these 6 books was analyzed by topics according to space given, and this material used as a basis in the construction of the Richards Biology Test. The form and content of the test are described briefly, together with the method used for improving the original test. The reliability of the test, based on a correlation of odd and even answers, was found to be .77. The scores were correlated with the Ruch-Cossmann test scores ($r=0.707$) and with the grades of 2 different groups of students ($r=0.80$ and 0.66 respectively). A few samples are given to illustrate the makeup of the test.—*M. Goodrie* (Clark).

980. **Watson, G. B.** A test for fairmindedness. *Indus. Psychol.*, 1927, 2, 84-92.—A test in six parts to measure the strength of prejudice. Part 1 is a cross-out test to detect the emotional tone surrounding certain words and symbols. Part 2 is a degree-of-truth test for detecting the presence of prejudiced opinions. Part 3 is an inference test to detect the tendency to draw unwarranted conclusions. Part 4 is a moral judgment test to show the degree to which opinions are colored by personal factors. Part 5 is an arguments test and discloses the degree to which one is able to see the weakness in his own arguments and the strength in those of others. Part 6 is a generalization test to measure the tendency to draw sweeping conclusions from one or a few instances. Results of the six tests are presented in the form of a profile. The test as a whole has a reliability of .96; its validity, although inferred, is thought to be high.—*A. T. Poffenberger* (Columbia).

981. **Wood, B. D.** New type examinations in the College of Physicians and Surgeons. *J. Person. Res.*, 1926, 5, 277-283.—Discussion of the use of new type examinations in medical college on the basis of a test in orthopaedic surgery. The conclusions were as follows: (1) Objective forms of questions seem to be as well adapted to the measurements of achievement in medical courses as in the average college course. (2) Each of nine forms of questions tried out in

this experiment has considerable validity for medical school courses. Standard forms—true-false, completion and multiple-choice—seem to be most effective. (3) Reliability and validity coefficients of objective examinations described in this report are two or three times as high as those of much longer examinations of the old type in the same subject matter. (4) The objective examinations measure "reasoning ability" more accurately and more reliably than old type examinations. (5) The adaptability of objective forms of tests to medical school work as demonstrated by this experiment suggests the hope that eventually there may be derived a series of objective, reliable and administratively convenient examinations on the common essentials of the medical curriculum, which will be universally applicable and which will afford accurate measures of defined achievements expressed in comparable and universally meaningful units.—*L. M. Greene* (Columbia).

982. **Wood, E. P.** Improving the validity of collegiate achievement tests. *J. Educ. Psychol.*, 1927, 18, 18-25.—Four sets of examination questions were prepared by two professors in the Department of Government at Columbia University. Each of these examinations was to last exactly one hour. They consisted of: "(A) A true-false 'do not guess' test of 210 items; (B) a multiple-choice, 5-response 'do not guess' test of 159 items; (C) a recall (semi-trade, completion form) test of 227 items (students strongly advised not to guess); and (D) an old type essay examination (given two days before Tests A, B, and C.)" All students (147) spent an hour on each of the sets of questions. *Results:* These tests were checked against the following criterion for purposes of validity: an average of seven separate tests of various kinds which the students had previously taken. The true-false test correlated with this criterion .748 when rights were used, but .845 when rights minus wrongs were used for the same. The 5-response items correlated .85 and the completion items .88 with the same criterion. By means of an interesting graph it is shown that the growth in validity from a 30-minute to a 60-minute test is about as great as the growth from a 15-minute to a 30-minute test. The general conclusion is: "The important thing is to make our individual questions more carefully and to make our tests include larger numbers of such questions."—*A. M. Jordan* (North Carolina).

[See also abstracts 870, 886, 956, 959.]

Directory of American Psychological Periodicals

- American Journal of Psychology**—Ithaca, N. Y.; Cornell University.
Subscription \$6.50. 624 pages ann. Edited by M. F. Washburn, K. M. Dallenbach, M. Bentley and E. G. Boring. Quarterly. General and experimental psychology. Founded 1887.
- The Pedagogical Seminary and Journal of Genetic Psychology**—Worcester, Mass.; Clark University. Subscription \$7.00. 700 pages ann. Edited by Carl Murchison and an international coöperating board. Quarterly. Child behavior, differential and genetic psychology. Founded 1891.
- Psychological Review**—Princeton, N. J.; Psychological Review Company.
Subscription \$5.00. 480 pages ann.
Bi-monthly. General. Founded 1894. Edited by Howard C. Warren and John B. Watson.
- Psychological Monographs**—Princeton, N. J.; Psychological Review Company.
Subscription \$6.00 per vol. 500 pp. Founded 1895. Edited by Shepherd I. Franz.
Published without fixed dates, each issue one or more researches.
- Psychological Index**—Princeton, N. J.; Psychological Review Company.
Subscription \$2.00. 200 pp. Founded 1895. Edited by W. S. Hunter.
An annual bibliography of psychological literature.
- Journal of Philosophy**—New York; 515 W. 116th St.
Subscription \$4. 728 pages per volume. Founded 1904.
Bi-weekly. Edited by F. J. E. Woodbridge, Wendell T. Bush and H. W. Schneider.
- Psychological Bulletin**—Princeton, N. J.; Psychological Review Company.
Subscription \$5.50. 720 pages ann. Psychological literature.
Monthly. Founded 1904. Edited by Samuel W. Fernberger.
- Training School Bulletin**—Vineland, N. J.; The Training School.
Subscription \$1.00. 160 pages ann. Edited by E. R. Johnstone. Founded 1904.
Monthly (10 numbers). Psychology and training of defectives.
- Archives of Psychology**—Sub-Station 84, N. Y.; Archives of Psychology.
Subscription \$5.00. 500 pp. per vol. Founded 1906. Edited by R. S. Woodworth.
Published without fixed dates, each number a single experimental study.
- Journal of Abnormal and Social Psychology**—Albany, N. Y.
Subscription \$5.00. Boyd Printing Co. Edited by Morton Prince, in coöperation with Floyd H. Allport. Quarterly. 432 pages annually. Founded 1906. Abnormal and social.
- Psychological Clinic**—Philadelphia; Psychological Clinic Press.
Subscription \$2.50. 288 pages. Edited by Lightner Witmer. Founded 1907.
Without fixed dates (9 numbers). Orthogenics, psychology, hygiene.
- Journal of Educational Psychology**—Baltimore; Warwick & York.
Subscription \$4.00. 540 pages ann. Founded 1910.
Monthly (9 numbers). Edited by Harold O. Rugg and coöperating board.
- Psychoanalytic Review**—Washington, D. C.; 3617 10th St., N. W.
Subscription \$6.00. 500 pages ann. Psychoanalysis.
Quarterly. Founded 1913. Edited by W. A. White and S. E. Jelliffe.
- Journal of Experimental Psychology**—Princeton, N. J.; Psychological Review Company.
Subscription \$5.00. 480 pages ann. Experimental.
Bi-monthly. Founded 1916. Edited by Madison Bentley.
- Journal of Applied Psychology**—Bloomington, Ind.; Indiana University Press.
Subscription \$4.00. 400 pages ann. Founded 1917.
Quarterly. Edited by James P. Porter and William F. Book.
- Journal of Comparative Psychology**—Baltimore; Williams and Wilkins Company.
Subscription \$5.00. 500 pages ann. Founded 1921.
Bi-monthly. Edited by Knight Dunlap and Robert M. Yerkes.
- Comparative Psychology Monographs**—Baltimore; Williams and Wilkins Co.
Subscription \$5.00. 500 pages per volume. Founded 1922. Edited by W. S. Hunter.
Published without fixed dates, each number a single research.
- Genetic Psychology Monographs**—Worcester, Mass.; Clark University.
Subscription \$7.00. 600 pp. ann. Edited by Carl Murchison.
Bi-monthly. Each number a complete research. Child behavior, differential and genetic psychology. Founded 1925.
- Psychological Abstracts**—Princeton, N. J.
Subscription \$6.00. 600 pages ann. Edited by W. S. Hunter.
Monthly. Abstracts of psychological literature. Founded 1927.

